

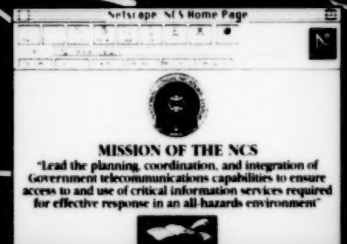


# FY96 NATIONAL COMMUNICATIONS SYSTEM

PREPARED BY THE  
OFFICE OF THE  
MANAGER, NATIONAL  
COMMUNICATIONS  
SYSTEM



NETWORK SECURITY



FIREWALL

71-013088

ENCRYPTION / AUTHENTICATION

*A Leader in Information Assurance*

JUN 24 1997



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# **FY96 NATIONAL COMMUNICATIONS SYSTEM**

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**PREPARED BY THE OFFICE  
OF THE MANAGER,  
NATIONAL COMMUNICATIONS  
SYSTEM**

I

## FOREWORD

**T**he United States is addressing the sweeping changes brought on by the advent of the Information Age, which will radically affect our Nation's ability to develop solutions to advance its strategic interests and address national security concerns. During fiscal year 1996 (FY96), the National Communications System's (NCS) joint industry and Government partnership, which includes 23 Federal member organizations and the President's National Security Telecommunications Advisory Committee (NSTAC), remained committed to the challenge of meeting the evolving needs of the national security and emergency preparedness (NS/EP) community. This is particularly crucial given the community's growing dependence on critical telecommunications and information technology services to perform its essential functions.

The evolving National Information Infrastructure (NII), the keystone of the Information Age, is electronically connecting all segments of society and playing an increasingly crucial role in promoting our national interests. For this reason, the NII represents an attractive means for potential adversaries eager to exploit United States vulnerabilities. This concern is heightened by the fact that many of the Nation's critical infrastructures, such as electric power, transportation, and financial services, increasingly rely on information systems and services. In its role of coordinating and responding to diverse national emergencies, the NCS considers information assurance (IA) to be of utmost national importance. Both the NCS and NSTAC are working with

the President's Commission on Critical Infrastructure Protection and the interagency Infrastructure Protection Task Force recently established by Executive Order 13010.

Similarly, the NCS actively supports the emergency response activities to natural and manmade disasters, which can impact significant portions of American society. FY96 brought numerous challenges to the NS/EP community, including emergency response activities for Hurricanes Marilyn, Opal, Bertha, and Fran; emergency response to massive flooding in the Northwest; and emergency planning for the 1996 Summer Olympics. In each of these instances, providing emergency responders with communications was vital. NCS programs and initiatives, such as the Government Emergency Telecommunications Service, the National Coordinating Center for Telecommunications, the Telecommunications Service Priority System, the Emergency Response Link, and the Emergency Response Fly-Away Kit, were poised to provide emergency responders robust NS/EP telecommunications services.

Moreover, the NCS and NSTAC are assessing the impact of the *Telecommunications Act of 1996* on NS/EP telecommunications. The Act has the potential to radically change the Nation's telecommunications and information environment for years to come. In particular, the entry of new service providers and the open interconnection requirements will have significant implications for NS/EP telecommunications users and the maintenance of NS/EP features and capabilities.

The ability of the NCS to respond to these challenges is imbedded in its partnerships with the NCS member organizations and the President's NSTAC. The resources available through this partnership greatly enhance our ability to ensure emergency responders have access to the most advanced, secure, and reliable information technologies. The NCS will continue to expand existing partnerships to ensure that the critical telecommunications and information technology resources necessary to support our Nation's security interests are robust and protected.



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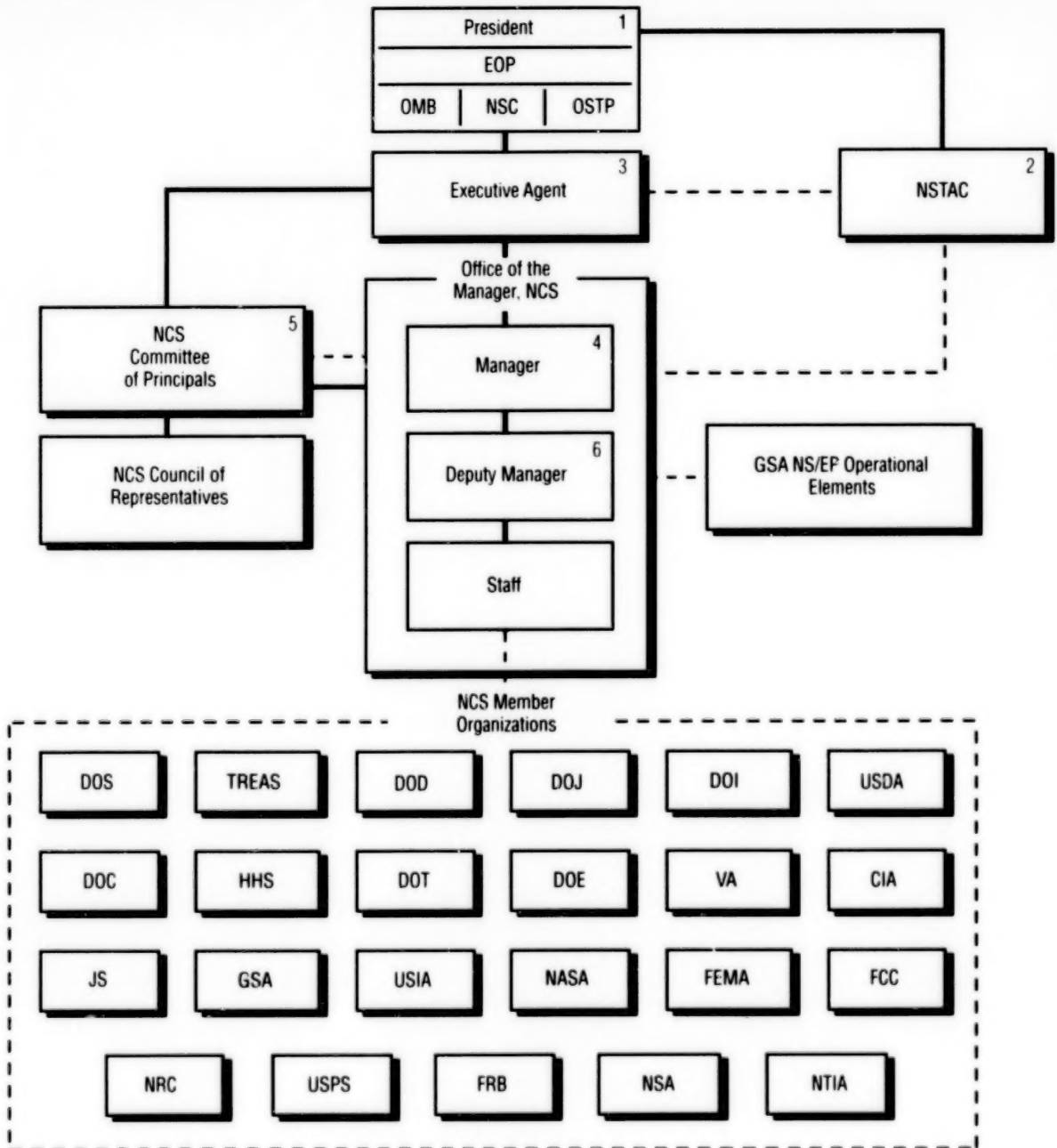
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V

# THE NCS ORGANIZATION



1. Policy Direction and Direct Execution of War Powers Functions
2. National Security Telecommunications Advisory Committee
3. Executive Agent, NCS responsibilities assigned to Secretary of Defense by E.O. 12472, April 3, 1984
4. Director, DISA, serves as Manager, NCS
5. The Key Telecommunications Officers of the NCS Member Organizations
6. First line management position, which is exclusively NCS

LEGEND	
Direction	=====
Coordination	-----
Advice	=====

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I.

# INTRODUCTION



## INTRODUCTION

**T**he FY96 National Communications System, developed by the Office of the Manager, National Communications System (OMNCS) in coordination with the National Communications System (NCS) Committee of Principals (COP), summarizes and highlights significant telecommunications events, activities, and accomplishments during fiscal year 1996 (FY96). This report also reviews the national security and emergency preparedness (NS/EP) telecommunications posture of the Nation, significant internal and external factors affecting the NCS, and major NCS interagency plans, programs, and initiatives.

### BACKGROUND

The NCS consists of 23 member organizations and is tasked with ensuring the availability of a viable NS/EP telecommunications infrastructure. The NCS assists the Federal Government in satisfying the critical telecommunications needs of the Nation. It was constituted and given its mission in a Presidential Memorandum signed by President Kennedy on August 21, 1963. The memorandum described a single, unified NCS formed by "linking together, improving, and extending, on an evolutionary basis, the communications facilities and components of the various Federal agencies ... to provide necessary communications for the Federal Government under all conditions ranging from a normal situation to national emergencies and international crises, including nuclear attack."

In April 1984, the signing of Executive Order (E.O.) 12472, *Assignment of National Security and Emergency Preparedness*

*Telecommunications Functions*, formally changed the mission focus of the NCS from planning and coordinating a single, unified Government communications system to its present mission of assisting the Executive Office of the President in exercising wartime and nonwartime emergency telecommunications responsibilities, and in coordinating the planning for and provisioning of NS/EP communications for the Federal Government under all circumstances.

To successfully fulfill its mission, the NCS is structured to foster interagency cooperation and serve as a focal point for joint industry and Government NS/EP telecommunications coordination and planning. Administratively, the NCS consists of the Executive Agent, NCS; the Manager, NCS; and the NCS COP. In partnership with the NCS, the President's National Security Telecommunications Advisory Committee (NSTAC) provides industry advice and expertise to the President on matters related to national security telecommunications.

### ENVIRONMENT FACING THE NCS

In the past several years, threats to U.S. interests have grown more diffuse and difficult to isolate than ever before. No longer defined strictly in terms of geopolitical alliances and military might, the Nation's security interests have broadened to include national competitiveness and technological leadership. Many of these changes, whether they be related to growing vulnerabilities to our Nation's information systems or the further reform of the telecommunications industry to enhance competition in all market segments, require development of new national policy frameworks. The NCS, working closely with its

23 member organizations and the President's NSTAC, has been at the forefront of these emergent issues, examining information-based threats and vulnerabilities to the National Information Infrastructure (NII) and other critical infrastructures; considering the potential consequences of terrorist acts; coordinating responses to catastrophic natural and technological disasters; and assessing the accelerated evolution of the telecommunications industry fostered by the increased competition in all market segments.

#### PROTECTION OF THE NII

The evolving NII—which includes public networks, private and proprietary networks, the Internet, online services, computer support systems, and other emerging information technologies—is electronically connecting all segments of society. Furthermore, the NII is playing an increasingly crucial role in promoting our national interests and projecting U.S. influence abroad. This national reliance on advanced information systems, however, makes the NII an attractive target for potential adversaries, whether they are hackers, organized crime, terrorists, or foreign intelligence services. For this reason, the NCS considers the security of the NII to be of utmost national importance and has focused sharply on information assurance (IA) to protect key elements of the NII from exploitation, degradation, and denial of service.

For more than a year, the NCS and the President's NSTAC have examined IA threats and vulnerabilities to the NII and the associated information system risks to other infrastructures. The NSTAC formed its IA Task Force (IATF) in 1995 to determine those infrastructures most critical to the national interest. Working closely with the NCS and other elements of Government, the IATF identified electric power distribution, financial services, and transportation as the Nation's most critical infrastructures. The IATF is performing risk assessments of these critical infrastructures focused on identifying information-based risks. During FY96, the NCS established an Information Assurance branch to heighten

awareness of IA issues within the Federal Government and to work closely with the IATF in its dealings with the private sector.

Efforts to protect the NII have also generated enormous interest within the U.S. Congress over the past year. One of the first important initiatives was an amendment to the *National Defense Authorization Act for FY96* sponsored by Senator Jon Kyl (R-AZ). That amendment required the President to submit to Congress a report on the national policy and architecture for protecting the NII against strategic attack, including plans for establishing an indications, warning, and assessment function. Moreover, the Kyl Amendment requested an assessment of the future of the NCS in light of the changing strategic national security environment and the revolution in information technologies. The *National Defense Authorization Act for FY96* was signed by President Clinton on February 10, 1996. Additional activities in this area during the fall of 1996 included amendments to the *National Defense Authorization Act for FY97* and the *Intelligence Authorization Act for FY97*. These amendments require the administration to outline the assignment of responsibilities to Federal departments and agencies relating to potential strategic attacks on the NII.

During the spring and summer of 1996, the U.S. Senate Committee on Governmental Affairs, Permanent Subcommittee on Investigations, held four well-publicized hearings on "Security in Cyberspace." Computer security experts, senior administration officials, members of Congress, and the General Accounting Office testified about the risks facing the Nation's infrastructures. To address the need for a national policy framework to examine physical and electronic threats, the administration presented E.O. 13010, *Critical Infrastructure Protection*, at the last hearing. This order, signed on July 15, 1996, established the President's Commission on Critical Infrastructure Protection and the Infrastructure Protection Task Force (IPTF). The commission is tasked to work with the private sector for one year on developing a comprehensive



national policy to protect vital national infrastructures. The IPTF was established to operate for 18 months with the goal of leveraging those existing capabilities and expertise available in the private and public sectors. Specifically, the IPTF was assigned the responsibility of providing and coordinating expert guidance to critical infrastructures to detect, halt, or confine an attack and to recover and restore service; issuing threat and warning notices; training and educating critical infrastructures on methods of reducing vulnerabilities; conducting after-action analysis to determine possible future threats, targets, or methods; and coordinating with pertinent law enforcement authorities during or after an attack to facilitate any resulting criminal investigation. As a result of its vast experience within the telecommunications and information

assurance arenas, the NCS is an active participant on the IPTF.

Additional Congressional initiatives included efforts to address the continuing problems of computer crime and economic espionage. Senator Kyl introduced the *NII Protection Act of 1996* to further criminalize intentional misuse, unauthorized access, or damage to computer systems and networks. The bill was added to the *Economic Espionage Act of 1996*, a non-controversial bill that is anticipated to become law. Provisions in the *Economic Espionage Act* were designed to criminalize wrongful copying or theft of economic proprietary information with the intent to benefit any foreign government or commercial competitor of the owner of the proprietary information.

Exhibit 1-1 summarizes the major FY96

**EXHIBIT 1-1**  
**PROTECTION OF THE NII — MAJOR INITIATIVES IN FY96**

<b>GROUP</b>		<b>RESPONSIBILITY</b>
<b>NATIONAL LEVEL INITIATIVES</b>		
President's Commission on Critical Infrastructure Protection		Recommend to the President a comprehensive national policy for protecting critical national infrastructures.
Infrastructure Protection Task Force		Heighten threat and vulnerability awareness among the public and private elements supporting eight critical infrastructures.
Defense Science Board's Information Warfare (Defense) Task Force		Examine threats to those information systems important to the national interest.
U.S. Senate Permanent Subcommittee on Investigations		Finalize Subcommittee report on "Security in Cyberspace" (October 1996).
<b>NCS-NSTAC RELATED ACTIVITIES</b>		
Industry and Government Network Security Information Exchange Groups		Evaluate threats to and vulnerabilities of public networks to electronic intrusion, recommend corrective actions, and hold network security symposiums to increase awareness.
Network Security Group		Participate in Government and private sector activities in the area of network security research and development.
Information Assurance Task Force		Assess information system-based risks to the electric power, financial services, and transportation infrastructures.
NII Task Force		Determine the feasibility of a private, nonprofit Information Systems Security Board.

national level initiatives under way to protect the NII, and highlights the complementary efforts of the NCS and NSTAC.

#### **ALL-HAZARDS RESPONSE**

Emergency personnel across all levels of Government have used advanced technologies to respond to a wide variety of disasters over the past several years, including a record number of hurricanes, floods, earthquakes, and domestic terrorist bombings. Concerns over NS/EP telecommunications response capabilities have increased in the NII environment, where new technologies have been deployed to speed response. Although emerging technologies, such as the Internet and wireless services, offer an additional source of communications during a disaster, the NCS continues to assess these technologies to ensure interoperability, priority access, and security.

FY96 began with emergency response activities in the aftermath of Hurricanes Marilyn and Opal, which occurred in late FY95. For the remainder of FY96, NCS emergency planning and response activities focused on Hurricanes Bertha and Fran; the Northwest flooding; and the 1996 Olympic Games in Atlanta, GA. Other world events such as peacekeeping operations in Bosnia, military activities in Iraq, the crash of TWA Flight 800, and disruption in the Western electric power grid have demonstrated the wide variety of events that require a coordinated telecommunications response. Given the growing importance of advanced information technologies in Federal emergency response efforts, future similar events will require the constant monitoring, analysis, and improvement of the information infrastructure with a focus on NS/EP telecommunications and information services.

The NCS is developing and implementing a variety of programs and initiatives and influencing national policy to aid emergency responders in their disaster recovery efforts (refer to Exhibit 1-2). Each NCS program and initiative provides the emergency responder robust NS/EP telecommunications capabilities. Some initiatives ensure proper planning,

training, and interoperability, while other programs provide functional NS/EP telecommunications services to emergency responders. NCS programs rely on partnerships among the NCS member organizations, the OMNCS, and the telecommunications industry to provide affordable, robust, and interoperable information technologies.

An example of such a partnership program is Cellular Priority Service (CPS). The CPS program facilitates the development of a cost-effective, nationwide cellular priority access service (CPAS) for emergency responders when cellular congestion occurs. On October 19, 1995, the NCS petitioned the Federal Communications Commission (FCC) to adopt rules for establishing and authorizing CPAS. On April 18, 1996, the FCC published a Public Notice, seeking comment on the CPAS petition. At the end of FY96, the CPAS petition was pending at the FCC.

The NCS made a key contribution to supporting the response to Presidential Decision Directive-39 (PDD-39), *U.S. Policy on Counterterrorism*, signed on June 21, 1995. PDD-39 states that the United States must be prepared to combat terrorists by reducing vulnerabilities, deterring, and responding to terrorist acts, and having the capabilities to prevent and manage the consequences of terrorists' use of nuclear, biological, and chemical (NBC) weapons. The Director, Federal Emergency Management Agency (FEMA), was tasked to ensure the availability of adequate measures for terrorist response activities. Through the NCS partnership and responsibilities designated in the *Federal Response Plan*, the NCS assisted FEMA in identifying key assets and shortfalls in telecommunications and information technology that may assist in emergency response activities. Several NCS programs and initiatives were designated as well suited to assist in terrorist response activities. Ongoing training, awareness, and enhancement of these programs will further ensure that the NCS is well prepared to contribute, in a combined Federal response, to an NBC attack or other act of terrorism.



**EXHIBIT 1-2**  
**ALL-HAZARDS RESPONSE INITIATIVES AND PROGRAMS**

<b>NCS PROGRAMS AND INITIATIVES</b>	<b>BENEFIT PROVIDED BY THE PROGRAM OR INITIATIVE</b>
National Coordination Center for Telecommunications (NCC)	Provides assistance to initiate, coordinate, restore, and reconstitute NS/EP telecommunications
Government Emergency Telecommunications Service (GETS)	Priority treatment within the public switched network
Cellular Priority Service (CPS)	Will provide priority access for emergency cellular users
Telecommunications Service Priority (TSP)	Priority provisioning and restoration of NS/EP telecommunications services
Shared Resources (SHARES) High Frequency (HF) Radio Program	Shares Federal Government and commercial radio assets to provide wireless message transfer
Communications Resource Information Sharing (CRIS) Initiative	Identifies telecommunications assets, services, and capabilities from Federal departments and agencies that may be shared during an emergency
Technology and Standards	Ensures technology and standards meet NS/EP needs and helps ensure interoperability
Training and Exercises	Trains, updates, and informs emergency personnel on programs and initiatives available during response
Enhanced Satellite Capability (ESC)	Will provide priority access for emergency satellite users
Emergency Response Link (ERLink)	Improves information sharing among Federal Response Plan community, including state and local governments
Emergency Response Fly-Away Kit (ERFAK)	Provides a transportable kit using terrestrial, cellular, or satellite transmission media to provide voice, data, and video services in a variety of operating system environments.

**TELECOMMUNICATIONS REFORM**

On February 8, 1996, President Clinton signed the *Telecommunications Act of 1996*, the most sweeping revision of communications legislation in over 60 years. The legislation responded to changes in the telecommunications industry, technology, and economic structure by providing national guidance on opening competition in all segments of the telecommunications market. With the rapid advancement of new and emerging communications technologies, it became increasingly evident that the current regulatory structure established by the 1982 Modified Final Judgment (MFJ) was impeding the growth of the overall telecommunications market.

The new law profoundly affects the communications landscape and will hasten the much anticipated competition between local exchange carriers (LEC) and interexchange carriers. The law opens all telecommunications markets to competition and, in particular, supersedes the remaining provisions of the MFJ that restricted the Regional Bell Operating Companies from manufacturing telecommunications equipment and providing long distance services. Cable, electric utility, and other companies are now allowed to offer local exchange services, while allowing LEC's to provide out-of-region long distance services immediately and in-region long distance service once competition exists in their local exchange

service area. In addition, the FCC has been given significant authority to develop regulations to implement the provisions of the act, while the Justice Department has a consultative role.

The NCS is assessing the impact of the act on NS/EP telecommunications. The FCC has issued an ambitious schedule to promulgate dozens of rules to implement the legislation. The rulemaking process has been placed on a fast track as mandated by Congress, but the effects of the new law and subsequent regulations on NS/EP telecommunications are not readily apparent. These regulations will have an enormous impact on the Nation's telecommunications structure. In particular, the entry of new service providers and the open interconnection requirements may have significant implications for NS/EP telecommunications users and their ability to access NS/EP features and capabilities.

Evolving to meet NS/EP telecommunications requirements in light of increasing IA concerns, emergency response capabilities, constrained Federal budgets, and rapid industry changes represent the greatest challenges facing the NCS. The NCS partnership between the NCS member organizations and NSTAC is well positioned to meet the needs of the Federal Government in responding to these challenges. The joint industry and Government NCS partnership affords the entire NS/EP community the opportunity to cost-effectively capitalize on evolving telecommunications and information technology to meet the NS/EP needs of the Nation today and into the next century.

# II.

## EMERGENCY RESPONSE ACTIVITIES



## EMERGENCY RESPONSE ACTIVITIES

### 1996 SUMMER OLYMPICS SUPPORT OPERATIONS

**T**he Federal Emergency Management Agency (FEMA), the General Services Administration (GSA), and the National Communications System (NCS) all played major roles in contingency planning for potential emergency support function (ESF) 2 (Communications) responsibilities at the Summer Olympics. Without a Presidential disaster declaration, the role of ESF 2 was limited to planning. Therefore, FEMA assumed the lead role in setting up an emergency communications backbone that would be used in the event of an emergency response. Technical planning and installation were handled by FEMA communicators from Mobile Emergency Response Support detachments. The National Coordinating Center for Telecommunications (NCC) led the national level planning support, which resulted in an NCS/GSA/FEMA Communications Annex to the *Federal Response Olympic Operations Plan*.

ESF 2 preparedness measures during the Games included activating the NCC emergency operations teams (EOT) and deploying the NCS/GSA regional manager and NCS Individual Mobilization Augmentees (IMA) along with an Emergency Response Fly-Away Kit (ERFAK) to the Alternate Regional Operations Center (A-ROC) outside of Atlanta, GA. Fifteen IMAs were on alert for immediate deployment in response to any incident at any of the Olympic venues. The NCS deployed a rented recreational vehicle to support ESF 2 staff at the A-ROC because no hotel space

was available in the Atlanta, GA, area during the Olympic Games.

Working with the Department of Justice (DOJ), the NCS prepositioned a mobile Advanced Communications Technology Satellite (ACTS) terminal in the event emergency communications were needed. The Federal Bureau of Investigation called on the aid of the terminal shortly after the bomb explosion in the Centennial Olympic Park. This ACTS terminal successfully supported the DOJ investigation and demonstrated the effectiveness of emerging satellite capabilities support to NS/EP users.

### HURRICANE RESPONSE OPERATIONS

During the past year, ESF 2 was activated twice during hurricane operations. On July 12-13, 1996, Hurricane Bertha moved up the Eastern Seaboard from North Carolina to Maine after brushing Puerto Rico and the Virgin Islands on July 8-9, 1996. A minimal ESF 2 response was necessary because even though Bertha never made landfall, it did cause an estimated \$100 million in damage.

On September 5, 1996, Hurricane Fran slammed into the North Carolina coast east of Cape Fear with winds of up to 120 miles per hour. The storm proceeded inland, turned North, and caused significant damage not only to North Carolina, but also to South Carolina and Virginia. To meet ESF 2 responsibilities, NCC EOT's were activated, and an NCS/GSA regional manager, a disaster liaison officer, and two IMAs were deployed to the Disaster Field Office established in Raleigh, NC.



## INTERNATIONAL SUPPORT

In December 1995, 8 years of joint United States/Canada Civil Emergency Planning Telecommunications Advisory Group (CEPTAG) planning was put to the test. A single request from the NCS/NCC to the emergency telecommunications staff at Industry Canada brought 200 Canadian telephone cable splicers from Canadian telecommunications companies to support US West restoration efforts in the wake of devastating flooding in Washington and Oregon. This entire response was coordinated through CEPTAG channels. Rapid Canadian response was key as 43 Canadian splicers arrived in support of flood ravaged areas in Portland, OR, within 72 hours. As a result of the actions taken, a mutual aid agreement between the U.S. and Canadian commercial telephone companies was formulated. The U.S. and Canadian Governments clearly demonstrated support to cross border emergency response activities.

## EMERGENCY RESPONSE FLY-AWAY KIT (ERFAK)

In the aftermath of Hurricane Marilyn, the telecommunications infrastructure of the U.S. Virgin Islands was devastated. Three to four days elapsed before minimally reliable telecommunications services were established. This limitation restricted the ability of emergency responders to provide and acquire adequate information to support the operation. Following the 1995 hurricane season, the Office of the Manager, NCS, recognized the need for a method of establishing and providing telecommunications capabilities in a more reliable, faster, and responsive manner. Consequently, the NCS developed a prototype ERFAK with multiple telecommunications and information processing capabilities.

The transportable kit provides voice, data, and video, which will enhance the capability of emergency response staff to quickly and effectively provide critical damage assessments and the ability to exchange time-sensitive and response management information. The ERFAK uses either terrestrial, cellular, or

satellite transmissions for voice, data, and video. ERFAK includes a laptop computer, cellular phone, color printer, camcorder, high-speed modem, Inmarsat terminal, global positioning system, color scanner, digital camera, and video camera.

In addition to the hardware capability, the ERFAK enables emergency response staff to function in a variety of operating system environments. The ERFAK also uses specialized software, such as PhotoEnhancer, Share Vision, and a mapping application, which proves effective in coordinating disaster response efforts.

10



# III.

## **NCS NS/EP TELECOMMUNICATIONS SUPPORT ACTIVITIES AND PROGRAMS**



## NCS NS/EP TELECOMMUNICATIONS SUPPORT, ACTIVITIES, AND PROGRAMS

**T**his section highlights the activities and accomplishments of the Office of the Manager, National Communications System (OMNCS), the National Communications System (NCS), and the national security and emergency preparedness (NS/EP) telecommunications community during fiscal year 1996 (FY96).

### OFFICE OF THE MANAGER, NCS, ACTIVITIES

On October 27, 1995, the Deputy Manager, NCS, restructured the OMNCS for the first time in more than 10 years. The OMNCS was restructured to better respond to the ever-changing threat to NS/EP telecommunications. The offices were realigned into functional

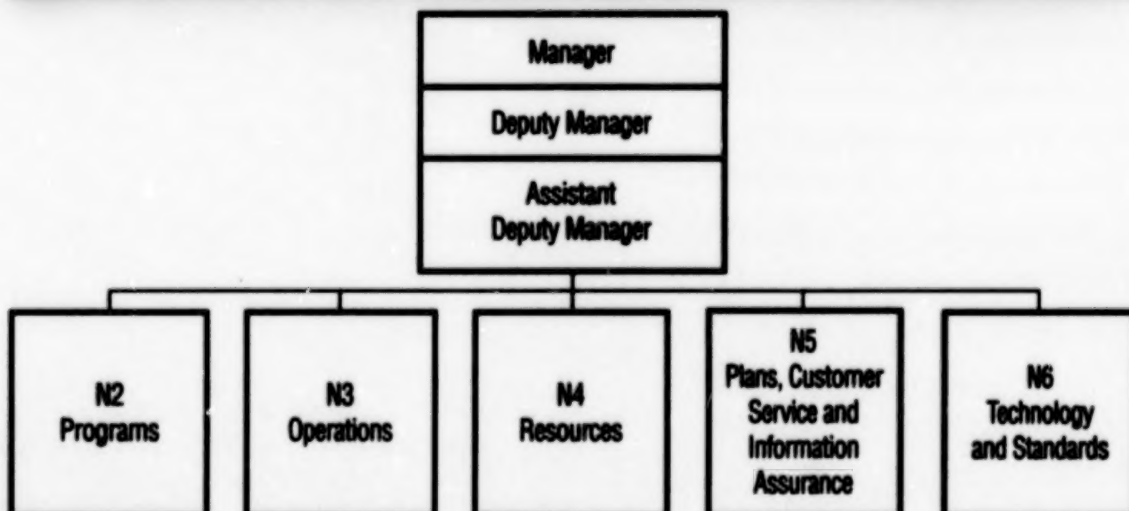
divisions based on complementary programs, services, and activities. Exhibit 3-1 depicts the new organizational structure of the OMNCS.

### PARTNERSHIP

In January 1996, the Deputy Manager, NCS, initiated the National Communications Awareness Partnership (NCAP) to revalidate NS/EP telecommunications requirements, promote the OMNCS programs and services available to NCS member organizations, and increase interagency awareness and coordination among NCS members. During the ensuing 6 months, the Deputy Manager, NCS, met with the Principal from each of the 23 member organizations that compose the NCS.

As a result of these meetings, briefings were provided to a variety of audiences to emphasize the importance of planning for

EXHIBIT 3-1  
OFFICE OF THE MANAGER, NCS



telecommunications support in emergency situations, safeguarding critical infrastructures, and enhancing information assurance and network security. Discussions on land mobile radio (LMR) interoperability, frequency spectrum allocation, and bandwidth on demand have prompted further exploration.

Potential follow-on partnership activities include training seminars, panel discussions, and tabletop exercises that emphasize telecommunications dependancies and focusing on functional areas such as medical, public safety, finance, and other areas pertaining to the national critical infrastructure such as energy and transportation.

## PROGRAMS

The mission of the Programs Division is to develop and implement evolutionary telecommunications architectures for survivable, enduring, and effective telecommunications infrastructure for NS/EP. The following paragraphs describe the activities of the Programs Division during FY96.

### NATIONAL LEVEL PROGRAM (NLP)

Each year, as part of the NS/EP Telecommunications Planning Process, the NLP and its associated programs are coordinated with NCS member organizations. These NS/EP telecommunications programs in the NLP reflect the policy objectives outlined in Executive Order (E.O.) 12472 and are responsive to White House-directed functional requirements for NS/EP telecommunications planning and programming. The FY98 NLP consists of the Government Emergency Telecommunications Service (GETS) and the Wireless Extension programs, consisting of Cellular Priority Service (CPS) and Enhanced Satellite Capability (ESC).

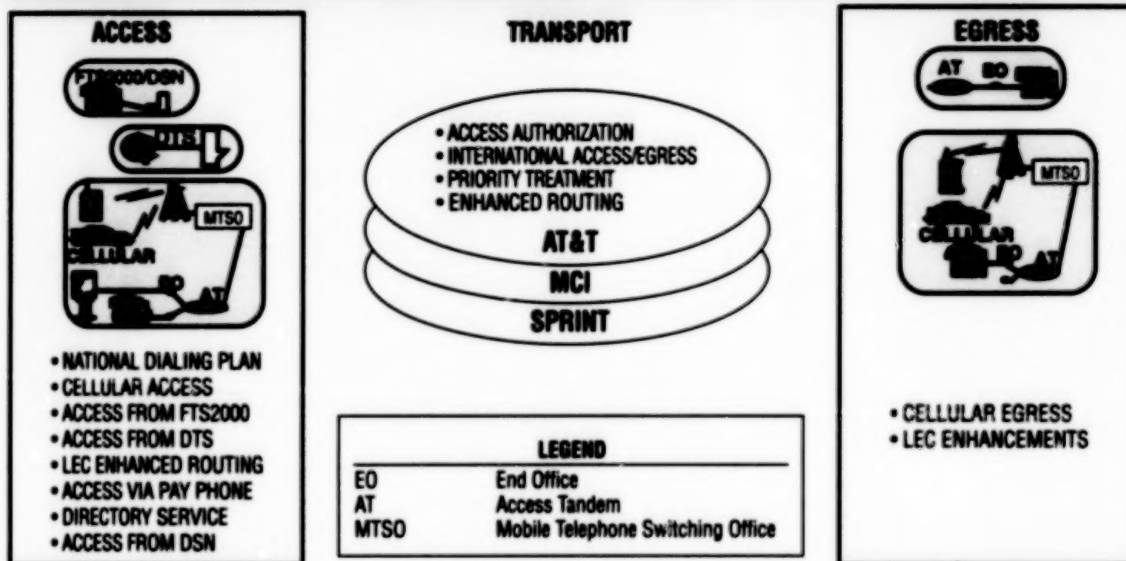
### GOVERNMENT EMERGENCY TELECOMMUNICATIONS SERVICE (GETS)

GETS achieved Initial Operational Capability (IOC) on October 1, 1995. This service provides NS/EP users with priority switched voice and voice-band data communications service through the public switched network (PSN) that is available under a broad range of

circumstances, including natural or human-made disasters. GETS implementation takes advantage of new and emerging technologies within the PSN, such as Advanced Intelligent Network (AIN) capabilities. The phased implementation of GETS permits additional capabilities to be activated as new PSN technology emerges. Exhibit 3-2 depicts GETS as of September 30, 1996.

- ▶ GETS uses existing PSN features and services to provide a nationwide capability for switched clear voice, encrypted secure voice, facsimile, and voice-band data communications.
- ▶ GETS calls are provided enhanced routing and priority treatment such as queuing and exemption from restrictive network management controls.
- ▶ GETS is accessible via a universal access number both nationwide and internationally. Access authorization is provided using a personal identification number (PIN).
- ▶ GETS is interoperable with the Federal Telecommunications System 2000 (FTS2000), Defense Switched Network, and the Diplomatic Telecommunications Service. The Federal Emergency Management Agency (FEMA) also provides direct access to GETS from the FEMA Switched Network.
- ▶ The Integration Contractor (IC) provides the centralized operations, administration, and maintenance support for GETS, which includes maintenance of the subscriber database, PIN card distribution, user assistance, fraud monitoring, and consolidated call detail records.
- ▶ The GETS Administration Center, located in the National Coordinating Center for Telecommunications (NCC), aids Government interface with the IC and liaison with the NCS member organizations during exercises and emergencies.

### EXHIBIT 3-2 GOVERNMENT EMERGENCY TELECOMMUNICATIONS SERVICE (GETS)



- The GETS User Council, which includes GETS service providers, GETS users, and representatives from NCS member organizations, continues to meet quarterly to provide operational feedback to the program office and to assist in streamlining administrative and support functions.

GETS achieved IOC on schedule and is ready to serve the entire NS/EP community, including not only Federal agencies but also associated State, local, and other appropriate organizations. As part of an ongoing outreach program, the OMNCS and the NCS member organizations are sponsoring authorized users of GETS. Currently, 11 organizations from 8 States, plus the American Red Cross, have enrolled. Although operating only 1 year, the service supports more than 8,300 NS/EP users.

During FY96, GETS provided priority treatment for NS/EP communications during several major disasters. In the hours immediately following Hurricane Opal, Department of Energy (DOE) personnel onsite at the FEMA disaster field office in Tallahassee, FL, used GETS to contact DOE Headquarters and the local utilities to restore affected services damaged by the hurricane. To advise that

helicopters were inbound to provide emergency assistance, the First U.S. Army used GETS to contact St. Croix Emergency Operations Center immediately after Hurricane Bertha destroyed many of the island's telecommunications facilities. St. Croix reported that this was the first call completed over the PSN after the storm. GETS also provided priority routing of calls during floods and fires in the Northwest when non-priority calls using the PSN failed.

Additional features have been ordered from the interexchange carriers (IEC) and local exchange carriers (LEC) — including enhanced routing, the provision of high probability completion (HPC) markings on all GETS calls before they leave the networks, and other call-congestion relief approaches. The current schedule and proposed budget will lead to Full Operational Capability during FY2000.

#### CELLULAR PRIORITY SERVICE (CPS) PROGRAM

The CPS initiative is being accomplished in response to national policy directives to provide for the continuance of NS/EP telecommunications during regional and/or national emergencies. Several recent natural disasters have illustrated the importance of cellular



communications in providing timely emergency telecommunications for Federal, State, and local users at a disaster site or mobile responders under a stressed environment. However, increased demand for cellular channels often creates network congestion and high levels of call blocking to critical disaster relief officials when communications are most needed. As a result, the OMNCS developed the CPS Program to facilitate and coordinate the development of a cost-effective, uniform, nationwide cellular priority access service (CPAS) capability that enhances NS/EP user access to the PSN. During FY96, CPS continued to take responsibility for program planning and management of cellular priority access implementation activities.

CPS activities for FY96 included the following:

- ▶ Performed additional 911 and CPAS computer simulations that were coordinated with the 911 community to discuss how providing priority to 911 calls affects NS/EP users
- ▶ Identified cellular intersystem operation and air interface standards that need to be modified to incorporate the Electronics Industry Association (EIA)/ Telecommunications Industry Association (TIA)/ Interim Standard-53-A Priority Access Channel Assignment (PACA) feature description
- ▶ Assisted the NCS Regulatory Counsel in filing Comments and Reply Comments with the Federal Communications Commission (FCC) on CPAS rules that discuss the priority access service, responsibilities of all stakeholders, and qualifying criteria for CPAS authorization
- ▶ Participated in the Federal Wireless Procurement to ensure that cellular priority access capability would be available to NS/EP users through the procurement effort
- ▶ Completed an analysis to assess the CPAS user profile based on the survey results

received from Committee of Principals (COP) and Council of Representatives (COR) members

- ▶ Updated the CPAS Operation and Implementation Plan
- ▶ Investigating the priority egress issues to provide end-to-end priority communications for NS/EP users
- ▶ Developing CPAS demonstration and service trial criteria and performance measures
- ▶ Exploring the development of priority access and egress capabilities in emerging wireless technologies, such as personal communications services (PCS).

#### **ENHANCED SATELLITE CAPABILITY (ESC)**

Through the ESC Program, the OMNCS investigates emerging satellite technologies, analyzes their ability to support NS/EP requirements, and works to improve and enhance their capability to support NS/EP users. The following paragraphs summarize ESC activities during FY96.

**Advanced Communications Technology Satellite (ACTS).** The OMNCS has a memorandum of understanding with the National Aeronautics and Space Administration (NASA) to participate in the ACTS Program. The ACTS Program provides industry and Government with an opportunity to experiment with many new technologies that will be incorporated into the next generation of commercial communication satellites. ACTS terminals provide voice, data, and video communications. The following initiatives have been accomplished by the OMNCS through the ACTS Program:

- ▶ Funded and performed NS/EP experimentation with two Ka-band T1 very small aperture terminal (VSAT) Earth stations



- Developed and incorporated NS/EP features (e.g., security, priority, precedence, and retry) into the ACTS system Earth stations.

The NCS also demonstrated the capabilities of ACTS through support provided to the Department of Justice (DOJ) in the aftermath of the bomb explosion at the 1996 Summer Olympics and the subsequent investigation. The ACTS Mobile Terminal, through support from NASA and the Jet Propulsion Laboratory (JPL), provided twelve 64kbps communication lines to support Federal users immediately after the explosion. These ACTS terminals offer a rapidly transportable, high-capacity, flexible communications capability able to support NS/EP users in a wide array of emergencies.

The OMNCS has recently concluded its ACTS experimentation. An analysis and results document is being prepared that will summarize results and conclusions from OMNCS ACTS experimentation and demonstrations, as well as other organization experimentation. Potential applications, benefits, and follow-on capabilities for use by NS/EP users will be included.

**American Mobile Satellite Corporation (AMSC).** The OMNCS is participating with AMSC to demonstrate NS/EP communication capabilities over its Mobilsat system. Mobilsat is a commercial satellite system designed to provide mobile communications throughout North America using a geostationary satellite. The OMNCS AMSC effort includes the following:

- Investigating the potential of the AMSC system to fulfill NS/EP requirements
- Supporting the development of NS/EP requirements within the AMSC system
- Experimenting and demonstrating the abilities of the AMSC system to support NS/EP users.

The OMNCS is experimenting with the Mobilsat system to evaluate the overall

system performance and specific NS/EP experimentation. The OMNCS has demonstrated the capabilities of AMSC terminals in several arenas, including exercise Grecian Firebolt '96 and, through support to DOJ, at the 1996 Summer Olympics.

**Developing Satellite System Studies.** The recent emergence and planning of many potential low Earth orbit (LEO) satellite systems (e.g., Iridium, Globalstar, Odyssey, ICO, and ORBCOMM) have created another potential source of NS/EP telecommunications. To stay abreast of these and other new and developing satellite technologies, and to influence industry to incorporate NS/EP requirements in these systems, the OMNCS studies these systems under the ESC program. The goal of these studies is to analyze, assess, and influence the capabilities of emerging technologies to provide telecommunications services for NS/EP users.

#### **ADVANCED INTELLIGENT NETWORK (AIN)**

AIN is an emerging telecommunications technology that has been identified by the President's National Security Telecommunications Advisory Committee (NSTAC) and the OMNCS as having the potential capability to meet the NS/EP telecommunications needs of NCS member organizations.

AIN technology is a telecommunications architecture that consists of signaling systems, switches, computer processors, databases, and transmission media. The convergence of these elements allows for customized network services that can be flexibly, rapidly, and cost-effectively configured to meet changing customer needs. Among other capabilities, AIN provides priority recognition, user authentication, enhanced routing, and network management alternatives in support of NS/EP contingency operations.

The AIN Program is responsible for the research and development (R&D) of AIN-based technology applications for NS/EP and operates under the following objectives:

- ▶ Assess AIN architectures, standards, and implementations
- ▶ Define, develop, and demonstrate AIN NS/EP applications
- ▶ Ensure NS/EP requirements influence the evolving AIN technology
- ▶ Facilitate integration into Government initiatives (e.g., GETS, Defense Information System Network)
- ▶ Evaluate AIN security, survivability, reliability, and interoperability.

The AIN Program Office coordinates with industry and NCS member organizations to identify AIN capabilities that will meet the NS/EP communities' requirements for telecommunications during crises. It also identifies preliminary services that, on successful proof-of-concept demonstrations, can be introduced into NS/EP initiatives, such as GETS.

GETS is deploying AIN-based alternate carrier routing to support LEC enhanced routing. Additionally, GETS, in conjunction with AIN, is pursuing use of the HPC American National Standards Institute (ANSI) standard for further enhancements. The feasibility of interconnecting LEC and IEC signaling networks is also being investigated, as required for implementation of AIN capabilities and wireless services.

To influence the evolving AIN technology and ensure that NS/EP needs are considered in service development, the AIN Program Office is participating in FCC AIN rulemaking procedures and the Network Reliability Council, and other joint industry and Government fora. For example, the AIN Program Office recently completed a review of industry Open Network Architecture filings to determine implications for NS/EP telecommunications. The AIN Program Office is also assessing next-generation AIN standards for development, demonstration, and eventual implementation as NS/EP telecommunications enhancements.

#### **COMMUNICATIONS RESOURCE INFORMATION SHARING (CRIS)**

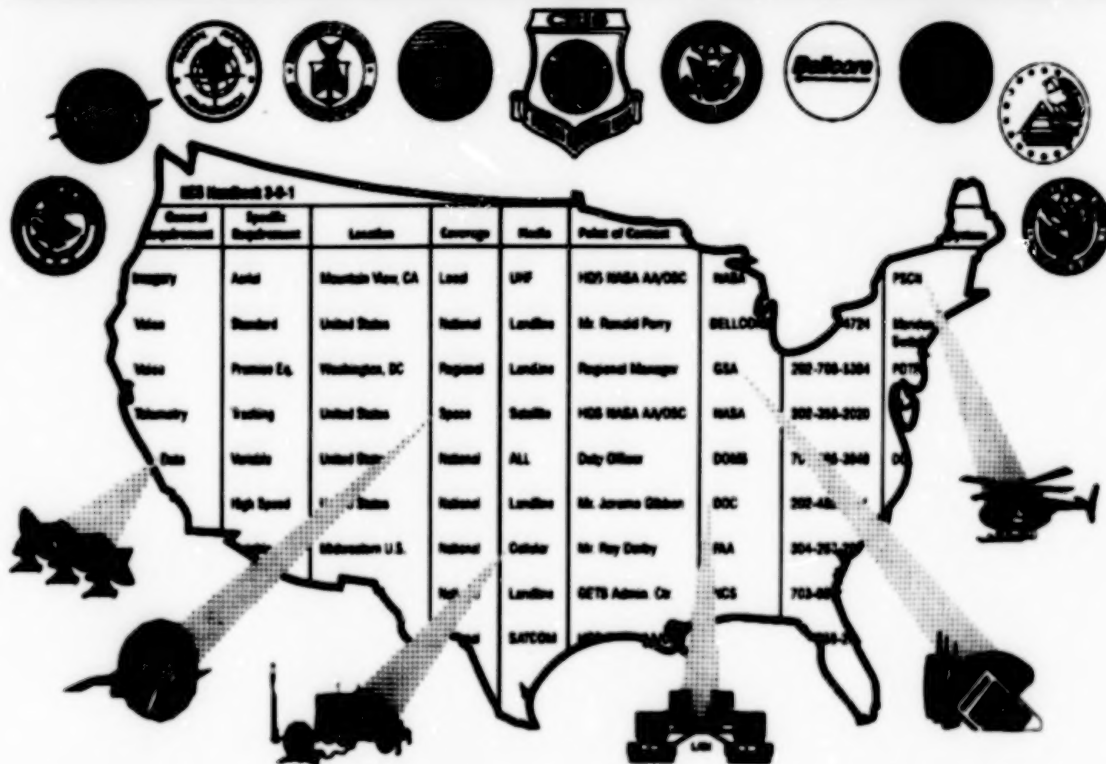
Many of the NCS member organizations have communications resources in the form of assets, services, and capabilities that could be shared with other Federal departments and agencies during NS/EP emergencies. The CRIS initiative establishes a mechanism for identifying and sharing resources between Federal participants during emergency situations. Agency points of contact, transportable communications equipment, over-the-counter services, fixed communications assets, and telecommunications services and capabilities of the Federal Government are compiled and maintained electronically in the CRIS Directory.

Participation in CRIS is open to all NCS member organizations and affiliates on a voluntary basis. Identification of telecommunications resources for use in CRIS is also voluntary. The use of telecommunications resources is based on noninterference with the mission of the offering agency.

The original CRIS Concept of Operations was approved in 1994; the CRIS Development Working Group, which was founded in 1995, became the permanent CRIS Working Group under the COR in 1996. After endorsement by the COP, NCS Directive 3-9, *Communications Resource Information Sharing (CRIS) Initiative*, was signed by the Executive Office of the President (EOP) on February 12, 1996.

The CRIS Directory was developed by the working group to list agency contact numbers and the types of telecommunications equipment, services, and capabilities available. It contains more than 30 different systems from more than 20 resource contributors (refer to Exhibit 3-3), including portable radio and satellite kits, mobile telephone centers, emergency procurement contracts, local area network/wide area network (LAN/WAN) access, and secure computer file transfer capabilities. The working group is now focusing on expanding the number of systems and resource contributors found in the directory, and increasing awareness of CRIS capabilities during NS/EP emergencies.

### EXHIBIT 3-3 COMMUNICATIONS RESOURCE INFORMATION SHARING (CRIS)



#### EMERGENCY RESPONSE LINK (ERLINK)

ERLink was established to provide information electronically between the participants in the *Federal Response Plan* (FRP) and State and local governments, allowing the rapid exchange of information in support of disaster response planning and operations.

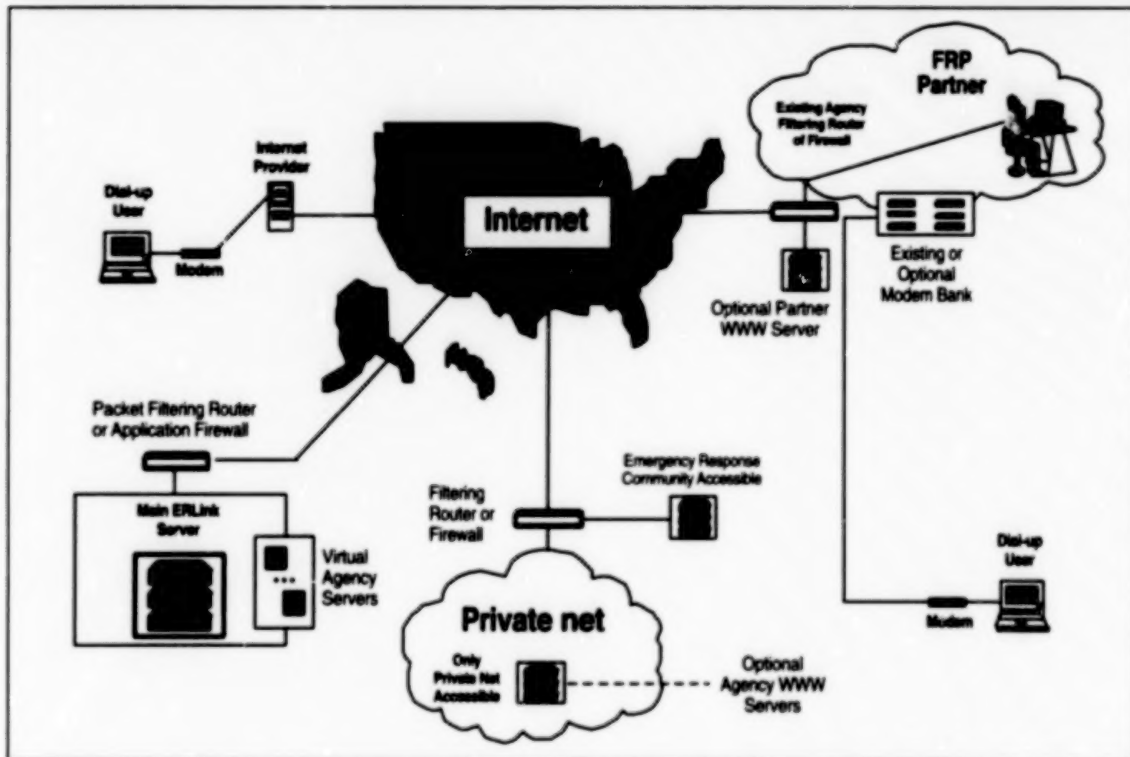
ERLink is a controlled access website based on the technology of the Internet's World Wide Web. FRP agencies use the ERLink server as a site to upload response reports and documents. In the future, other agency web servers will be connected to ERLink to provide additional sources of response-related information. Each ERLink user determines what information he/she will provide to the system and who in the ERLink community will be able to view it. ERLink users can then download response-related documents, such as situation reports, from other agencies as needed. This avoids the problems caused by trying to send response information to all who may need it,

usually requiring a combination of paper, fax, and various electronic mail (E-Mail) systems to work.

**Architecture.** ERLink is a controlled access website hosted on the Internet. The Internet was chosen as the backbone for its near ubiquitous reach to emergency managers and disaster responders from almost any geographic location. The World Wide Web also presents a single and familiar interface for ERLink users, reducing the need for system-specific training. In addition, this is a relatively low cost approach that takes advantage of existing infrastructure, allowing connection from private networks and dial up from Internet service providers. The main ERLink server (refer to Exhibit 3-4) hosts the directory/information structure that parallels the structure of the FRP. A user may simply point and click to retrieve information from a specific source about a selected event from either the main ERLink server or a remote server. The main



### EXHIBIT 3-4 EMERGENCY RESPONSE LINK (ERLINK) ARCHITECTURE



ERLink server may also function as a virtual server. The virtual server concept provides interested participants a place to host and share information without incurring procurement, administration, and maintenance costs for their own server.

**Security.** Security on ERLink is maintained through a number of means. Access is restricted to registered users who must login to ERLink with a user name and password. Future plans are to require a digital certificate to verify users accessing ERLink. Traffic between the ERLink server and users is encrypted using the Secure Socket Layer protocol. There are different levels of read/write privileges in ERLink, based on assigned user groups. The ERLink server provides only Web services, reducing the number of opportunities for hostile access. Finally, ERLink will be continually monitored to identify misuse or compromise of the system.

**Pilot Capability.** Kickoff of a 6-month pilot test of ERLink's capabilities was held September 17, 1996. Participants in the pilot include the NCS, the Department of Commerce, the Department of Transportation, the Department of the Interior, FEMA, the General Services Administration (GSA), NASA, the Nuclear Regulatory Commission, the U.S. Army Corps of Engineers, and the State of California. The 6-month pilot will help determine if ERLink can adequately support the information sharing requirements of the FRP community. The efficiency of administering the server, such as setting up user accounts and providing accessibility to information, will be tested. ERLink security features will also be tested by deliberate searches for weaknesses in security structure. Finally, the use of ERLink in exercises and actual emergency responses will point to future system improvements.



## OPERATIONS

The mission of the Operations Division is to ensure the availability of telecommunications across the entire spectrum of emergencies. The following paragraphs describe activities of the Operations Division during FY96.

### NATIONAL COORDINATING CENTER FOR TELECOMMUNICATIONS (NCC)

The NCC is a joint industry/Government organization with the mission of assisting in the initiation, coordination, restoration, and reconstitution of telecommunications services and facilities for NS/EP. It serves as the operational focal point for all of the National Telecommunications Management Structure (NTMS) all-hazard response levels. Because the divestiture of the Bell System in 1984 created the need for a joint industry/Government coordinating mechanism, such as the NCC, continuing structural changes within industry make the NCC even more essential in ensuring that NS/EP telecommunications requirements are met.

Because the commercial telecommunications industry has the majority of telecommunications assets, including the facilities, equipment, and personnel trained to restore NS/EP services, these assets are the primary sources for NCC. Industry personnel located in the NCC are in direct contact with their company senior management and counterparts in the field. The NCC also collects information from Government-owned systems

through the Government representatives to the NCC. Information and requests for assistance can be routed from industry to Government or vice versa depending on the scenario. The value of the NCC is the synergy created between the telecommunications industry and Government. Current NCC membership is presented in Exhibit 3-5.

The NCC is responsible for the daily operations of the Telecommunications Service Priority (TSP) Program, the Shared Resources (SHARES) High Frequency (HF) Program, and GETS PIN assignments. Additionally, the Manager, NCC, may activate the NCC Emergency Operations Team (EOT) during an emergency to provide 24-hour emergency telecommunications support for a federally declared emergency, acting as the national lead for Emergency Support Function (ESF) 2 (Communications) of the FRP.

During the past year, the NCC has provided communications support to the FRP during emergency response activities for Hurricanes Marilyn, Opal, and Fran; emergency response to the Northwest flooding; and the planning for the Summer Olympics in Atlanta, GA. The NCC has also implemented the new Emergency Response Fly-Away Kit (refer to Section 2).

### TELECOMMUNICATIONS SERVICE PRIORITY (TSP) SYSTEM

The TSP System continues to facilitate the priority provisioning and restoration of NS/EP

EXHIBIT 3-5  
NATIONAL COORDINATING CENTER FOR TELECOMMUNICATIONS (NCC) MEMBERSHIP

INDUSTRY REPRESENTATIVES		GOVERNMENT DETAILEES
AT&T	AT&T Wireless Services, Inc.	DOS
Bellcore	MCI	FEMA
COMSAT	MFS Telecom, Inc.	FCC
GTE	U.S. Telephone Association	GSA
ITT	Sprint	

telecommunications services. During the past year, the TSP Program Office received a weekly average of 200 requests for TSP assignments. Priority provisioning of telecommunications services was critical in supporting the relief efforts for the Northwest flooding, Alaska fires, and Hurricanes Marilyn and Opal disaster areas.

Educating and training emergency responders on the use of the TSP System remained a priority with the program office. Briefings were given nationwide to potential users, vendors, and emergency response coordinators. Training was provided on the TSP Document Management System, which offers users the ability to submit and track TSP assignments from a personal computer, and on the TSP Provisioning Tracking System, which provides a tool for vendors and the program office to track provisioning assignments.

Internally, the program office is making significant progress in transitioning the TSP database to a client-server platform. As part of this transition, forms and manuals are being redesigned to make them easier to understand and reflect the enhanced features of the new client-server database. The TSP Oversight Committee began work to determine how TSP can be used with new telecommunications technology and how to improve the reconciliation and revalidation processes. In addition, the program office, anticipating being assigned administrative responsibilities for the CPAS System, began writing the manual to outline responsibilities and procedures.

#### **OPERATIONAL PLANNING AND POLICY SUPPORT**

The Operational Plans and Policy Support Branch emergency response policy and planning activities assure readiness and compliance with established or emerging requirements. Beginning with annual NS/EP requirements assessments at the National and Regional levels, branch personnel develop and maintain operational concepts, organizational structures, and operations plans for the OMNCS such as the OMNCS *Continuity of Operations Plan*

(COOP). This branch also provides technical assistance in communications and pre-disaster planning; coordination with interagency working groups; and implementation with other Federal agencies. The Operational Planning and Policy Support Branch accomplishments included:

- ▶ Completed both National and Regional Readiness Requirements Reviews of the NCS emergency preparedness posture; recommended corrective action and initiated the implementation of solutions
- ▶ Completed a Communications Requirements Assessment for the Communications Functional Group
- ▶ Completed a requirements assessment for the National Telecommunications Management Reference Series (NTMRS); the resulting analysis indicated that the proposed revision to the NTMRS was not cost effective and the project was canceled
- ▶ Enhanced and prepositioned the Contingency Kits for the Communications Functional Group
- ▶ Completed the annual update of the COOP
- ▶ Completed updating the Joint Telecommunications Resources Board operations plans
- ▶ Completed an overall assessment of the NTMS All Hazard Single Family of Plans
- ▶ Provided advice and consultation to the National Institute for Urban Search and Rescue, the Nuclear Regulatory Commission, and Health and Human Services on their emergency communications planning
- ▶ Provided guidance and support to the Office of Science and Technology Policy on NS/EP telecommunications policy matters

- ▶ Represented the NCS at the Interdepartment Radio Advisory Committee and the Federal Radiological Preparedness Coordinating Committee
- ▶ Kept management informed of national organizational, policy, and technical developments in Congress, the National Telecommunications and Information Administration, the FCC, and FEMA
- ▶ Supported tasking for the OMNCS to participate in the Presidential Decision Directive-39 Consequences of Terrorism Assessment Core Group
- ▶ Assessed the impact of technological, regulatory, and economic changes affecting the use of radio frequency.

#### **NATIONAL TELECOMMUNICATIONS COORDINATING NETWORK (NTCN)**

The NTCN is the primary telecommunications capability supporting the operations and functions of the NTMS. The NTCN supports the NTMS by providing communications connectivity for the exchange of minimum essential telecommunications management information between NTMS elements.

The NTCN relies on existing multimedia telecommunications systems and capabilities that can be readily accessed to support the NTMS all-hazards mission. HF radios deployed by the NTMS Program Office can serve in a contingency as a backup means of communications if other systems or network segments are disrupted or inaccessible.

Efforts during the year focused on continuing HF radio installation, training of operating center personnel, updating NTCN documentation, and conducting recurring communications testing.

During FY96, the NTCN accomplished the following tasks:

- ▶ Installed HF radios at four operating center (OC) locations
- ▶ Trained OC personnel at four OC locations

- ▶ Revised the *NTMS OC Handbook* to include provisions for an all-hazards capability
- ▶ Updated the NTMS OC training curriculum
- ▶ Conducted two NTCN communications tests
- ▶ Conducted automatic link establishment (ALE) interoperability tests on the Harris RF-3200E radio system.

#### **SHARED RESOURCES (SHARES) HIGH FREQUENCY (HF) RADIO PROGRAM**

The SHARES HF Radio Program continues to support emergency backup communications. The SHARES network incorporates 54 separate industry, Federal, and State entities with more than 1,100 stations in the United States and overseas. The monthly meetings of the SHARES HF Interoperability Working Group, a standing body established under the COP/COR, involves more than 75 organizations. The working group is charged with maintaining the readiness of the SHARES network and addressing issues affecting interoperability of Federal HF radio systems. SHARES continues to maintain the Federal registry of ALE Address Codes and is involved in developing future ALE standards.

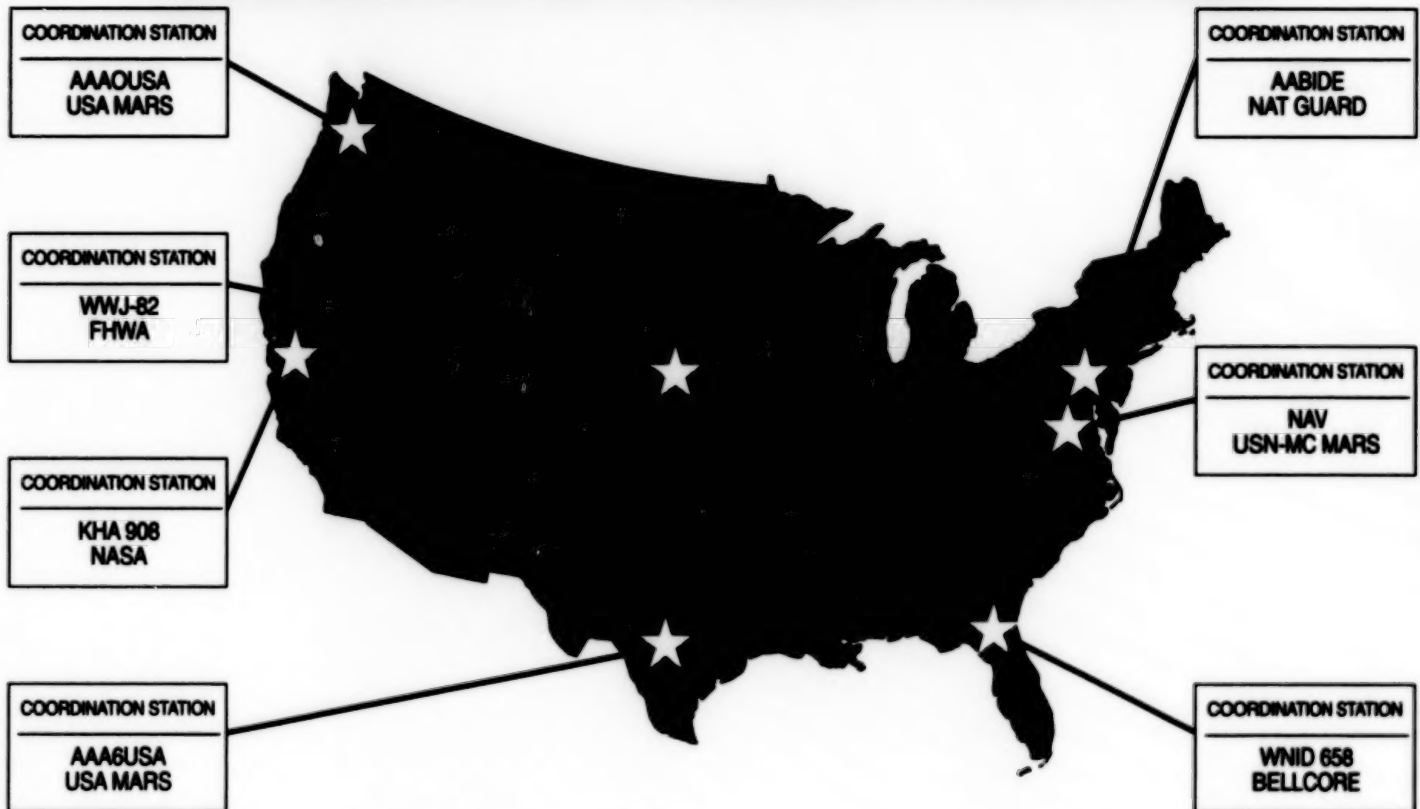
The working group is examining and promoting new HF technologies, including faster digital modems, HF E-Mail, and multimedia applications.

During FY96, SHARES conducted three nationwide exercises, with more than 700 stations participating, to maintain readiness and provide training. New exercise procedures, coupled with the recent establishment of the SHARES Coordination Network (refer to Exhibit 3-6), allow more stations to participate, which in turn more accurately simulates actual emergency operations.

Operationally, five SHARES Readiness Notices were issued in support of Hurricanes Opal, Bertha, and Fran. Additionally, the SHARES Coordination Network was established for a 2-week period to support the Summer Olympic Games, where 22 SHARES stations participated.



### EXHIBIT 3-6 SHARED RESOURCES (SHARES) HIGH FREQUENCY (HF) COORDINATION NETWORK



#### TRAINING AND EXERCISE BRANCH

The Training and Exercise Branch is organized to train OMNCS staff, NCS Regional Managers, ESF 2 (Communications) support agency personnel, the telecommunications industry, and regional and State responders to effectively execute their responsibilities during the various phases of response and recovery operations. With an emphasis on the emergency telecommunications services to the disaster site, this program goal is achieved through a series of training and exercise activities and technology demonstrations.

The Training and Exercise Branch performed the following activities:

- ▶ Due to the overwhelming success of the first phase of the Telecommunications Emergency Response Training (ERT) seminars, the Training and Exercise Branch designed and developed ERT Phase II.

The agenda includes emergency plans and activities in five critical areas:

- a) FRP and ESF 2 (Communications),
- b) telecommunications services and priority provisioning, c) regional and State emergency operations, d) national emergency operations, and e) current and future technologies. In addition, various technology demonstrations complement the presentations. To date, seminars have been conducted in Oakland, CA (Region IX), in March 1996; Chicago, IL (Region V), in June 1996; and McLean, VA (National Capital Region), in August 1996. The ERT seminar is a joint training program with FEMA and GSA.
- ▶ Designed and conducted a joint industry/Government Critical Facilities Protection tabletop exercise to evaluate the effectiveness and validity of existing



guidelines to protect critical telecommunications facilities during civil disturbances. The exercise was conducted simultaneously via video teleconferencing to link three locations: Arlington, VA (national-level response structure); Oakland, CA (representing northern California); and Pt. Mugu, CA (southern California). More than 40 participants and observers, representing national, regional, and local telecommunications providers and key Federal and State government agencies were involved in the exercise. The President's NSTAC NS/EP Group was provided an update on the results, including recommendations to the existing guidelines. In addition to providing a training opportunity, the tabletop exercise validated the effectiveness of the *Guidelines for Obtaining Protection of Critical Telecommunications Facilities During Civil Disturbances* to assist telecommunications industry emergency planners in protecting critical facilities. The exercise highlighted planning shortfalls, which will require corrections to streamline and enhance the facility protection process.

- ▶ Sponsored and conducted a *Federal Radiological Emergency Response Plan (FRERP)* panel discussion, involving 30 participants and observers representing the FRERP signatory agencies, OMNCS staff, the Office of Science and Technology Policy, and NCC industry representatives. The panel discussion was an interactive session that provided an opportunity for participants to discuss their organizations' roles and responsibilities and telecommunications requirements during a radiological emergency. The discussion also provided information on NCS capabilities and services. This activity supports the NCS NCAP.
- ▶ A *Long-Range Training and Exercise Analysis* was developed to identify training requirements for the NCC EOT's. The analysis report, *Training Requirements Report for NCS Emergency Operations*

*Teams*, identified training needs, media, and methods for maximizing training opportunities for the EOT's. A training plan to facilitate the development of training and exercise activities was also identified.

- ▶ Developed a training and exercise planning schedule that includes a chronological compilation of significant training and exercise events for the next 2 years. The exercises include those sponsored by the NCS, FEMA, the Department of Defense, the North Atlantic Treaty Organization, Federal departments and agencies, and the telecommunications industry.
- ▶ Developed training support manuals to assist EOT members in conducting their duties during emergency response and recovery operations. Manuals were developed for NCS representatives to the Emergency Support Team and for the Disaster Area Liaison Officer (DALO). These documents were developed for use in either group training or self-study.

The Training and Exercise Branch has planned the following future activities:

- ▶ Continuation of ERT Seminars Phase II; Atlanta, GA (Region IV), November 1996; San Juan, PR, December 1996; Philadelphia, PA (Regions I, II, III), January 1997; Denton, TX (Regions VI, VIII), April 1997; Hawaii, May 1997; and Anchorage, AK, or Seattle, WA (Regions VIII and X), June 1997.
- ▶ The Training and Exercise Branch, in coordination with the medical response community, is sponsoring a tabletop exercise to bring together members of the ESF 8 (Health and Medical Services) and ESF 2 (Communications). This tabletop exercise is intended to enhance NCS awareness of emergency medical operations and telecommunications needed to support these operations. This activity supports the NCS NCAP initiative.

- Participation in the FEMA-sponsored Catastrophic '97 emergency response tabletop exercise. This exercise, which focuses on a catastrophic earthquake in the Midwest, will include representatives from all ESF's.

#### OMNCS AUGMENTEE PROGRAM

The development of the OMNCS augmentee program, formalized in 1988, continues. This program is composed of the U.S. Department of the Army's Individual Mobilization Augmentee (IMA) Program. The augmentees supplement existing staff within the OMNCS and at regional locations during national emergencies or crises.

#### Individual Mobilization Augmentees (IMA).

The NCS IMA Program provides a valuable array of skilled Reserve personnel to augment telecommunications response activities. During Presidentially declared disasters, the NCS IMA Program has provided the NCS with a surge capability to deploy and react to a myriad of situations associated with ESF 2 (Communications) operations. IMA personnel are often among the first Federal disaster response personnel to reach a disaster scene. Many of these Reserve officers are telecommunications professionals in their full-time civilian careers and bring these skills with them in response to Federal emergencies. The NCS IMA Program continues to provide an extremely important and invaluable service to the OMNCS NS/EP mission at the national and regional levels.

The NCS IMA Program meets mission responsibilities through deployment of IMA's using a combination of annual training (AT), paid and non-paid individual drills, and temporary tours of active duty. The NCS provides a minimum of one AT for each of its 35 IMA's annually. Paid drill participation for the 27 Drilling IMA's is near 100 percent. Since August 1990, the IMA Program has provided over three years of active duty days to support both contingency and disaster relief operations. Exhibit 3-7 provides information concerning NCS IMA deployments in disaster relief operations for FY96.

#### EXHIBIT 3-7 IMA DEPLOYMENTS IN FY96

EVENT	DATE	TOTAL DAYS*
Hurricane Marilyn	Sep 95	98
Hurricane Opal	Oct 95 Oct 95	28 14
Oregon Floods	Feb 96	24
Summer Olympics	Jul 96	73
Hurricane Fran	Sep 96	35

\*Total days is a cumulative figure of total days each IMA performed.

#### INFORMATION RESOURCE MANAGEMENT (IRM)

The OMNCS performed its annual update to the *IRM Long-Range Plan*. This plan defines the vision, goals, and objectives, and the initiatives required to achieve them. It also defines funding, prioritization, and policy issues for selecting initiatives for technology insertion or technology refreshment. This plan will result in the integration of technologies, such as electronic imaging, process and data modeling tools, configuration management tools, enhanced processing platforms, client-server processing, combined computer facility heterogeneous database access, and multimedia capabilities. The *IRM Long-Range Plan* was provided to the Office of Management and Budget (OMB) in conformance to requirements specified in the OMB Circular A-130.

#### RESOURCES

The mission of the Resources Division is to provide the financial, contractual, manpower, and resource management direction for the NCS.

#### PERSONNEL SUPPORT

Pursuant to E.O. 12472, NCS member organizations executed memorandum of agreement (MOA) with the Manager, NCS, regarding personnel support to fill important OMNCS staff positions. Exhibit 3-8 depicts

**EXHIBIT 3-8**  
**PERSONNEL SUPPORT FROM**  
**NCS MEMBER ORGANIZATIONS**

MEMBER ORGANIZATION	PERSONNEL SUPPORT
Department of State	2
DOD (Total)	14
U.S. Army	5
U.S. Navy	1
U.S. Air Force	7
Civilian	1
Department of Justice	1
Department of Energy	1
General Services Administration	1
National Aeronautics and Space Administration	1
Federal Emergency Management Agency	1
Federal Communications Commission	1
National Security Agency	1

personnel support provided to the Manager, NCS, by member organizations at the close of the reporting period.

**PLANS, CUSTOMER SERVICE AND INFORMATION ASSURANCE**

The mission of the Plans, Customer Service and Information Assurance Division is to develop plans and policies to enhance the ability of the NCS to fulfill its mission; provide highest quality

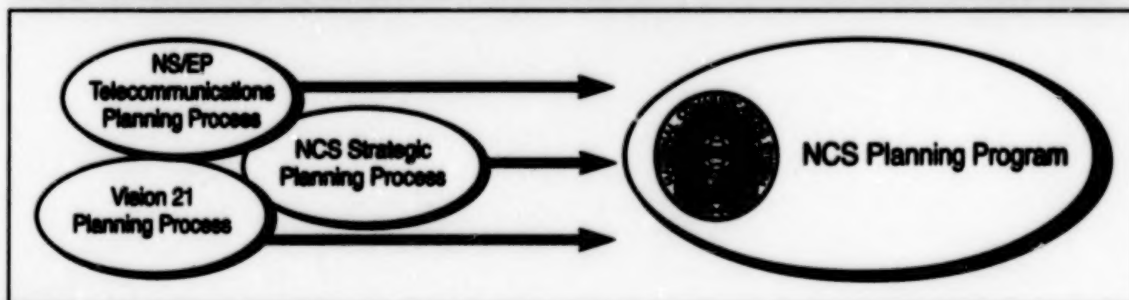
service to the NCS member agencies, the NCS COP, and the President's NSTAC; focus NCS security initiatives and increase general awareness of the importance of network and information security in the NCS industry and Government community.

**PLANS AND POLICY ACTIVITIES**

The Plans and Policy Branch was formed to bring all NCS planning activities under the same office. Plans and Policy is responsible for shaping activities formerly associated with the COP's Vision 21 process, Strategic Planning, and the NS/EP Telecommunications Planning Process into a single, concise, end-to-end planning program, as shown in Exhibit 3-9.

**NCS Vision 21.** NCS Vision 21 was a Total Quality Management process, established in 1990 by the Manager, NCS, senior OMNCS staff, and the COP to focus on the NCS' purpose, mission, and vision into the next century. Annual off-site meetings were held to reaffirm the purpose, mission, vision, and direction of the NCS. At the October 1994 off-site meeting, 12 issues were developed and three focus teams were created to address and resolve these issues. In May 1996, Focus Team final reports, which provided either conclusions or recommendations for each of the 12 issues, were mailed to the COP for approval by ballot. At the August 1996 COP meeting, it was announced that the NCS members unanimously

**EXHIBIT 3-9**  
**NCS PLANNING PROGRAM**





approved the reports, and the NCS Vision 21 process was completed.

**NCS Strategic Plan.** FY96 was earmarked by the final publication of the *NCS Strategic Plan* in January 1996. The plan was approved by all member organizations and defines the new NCS Vision developed through the NCS Vision 21 process:

*"The NCS Team, in partnership with industry, ensures immediate, interoperable, and secure global information services to support national security requirements and preparedness for emergency response to all hazards."*

The *NCS Strategic Plan* defines 7 goals, 28 objectives, and 97 strategies for moving the NCS toward its vision. The specific NCS strategic goals are shown in Exhibit 3-10.

EXHIBIT 3-10  
NCS STRATEGIC GOALS

Goal 1	Ensure products and services meet customer needs
Goal 2	Exploit technology
Goal 3	Enhance organizational effectiveness
Goal 4	Foster team spirit
Goal 5	Foster relationships and build strategic alliances
Goal 6	Ensure sufficient resources
Goal 7	Enhance NCS visibility

Additional strategic planning activities focused on developing concepts for implementing the *NCS Strategic Plan* and for identifying, tracking, and resolving NCS member organizational needs. Close coordination with COR members resulted in significant contributions toward a concept for implementing the strategic plan.

**NCS Planning Program.** The NS/EP Telecommunications Planning Process (TPP) activities concentrated on unifying the NCS planning activities. Efforts concentrated on identifying best practices within the TPP, Strategic Planning, and Vision 21 processes for incorporation into an NCS Planning Program that provides NCS senior management with the tools needed to ensure that the commercial and Government capabilities exist to meet NS/EP requirements.

The NS/EP TPP activities include the following:

- ▶ Performing an analysis forecasting how the *Telecommunications Act of 1996* is likely to affect telecommunications market dynamics and the PSN architecture, and identifying the NS/EP implications, opportunities, and risks
- ▶ Reviewing Internet architecture and services as they apply to NS/EP needs today and identifying methods in which the NCS could influence the evolution of the Internet to benefit NS/EP users
- ▶ Migrating the NS/EP requirements database to a new hardware and software platform to support future NS/EP requirements efforts.

#### CUSTOMER SERVICE ACTIVITIES

The Customer Service Branch is responsible for interagency activities involving the COP and COR and joint industry/Government activities involving the NSTAC. The following paragraphs describe the activities of the Customer Service Branch during FY96.

**NCS Committee of Principals (COP)/ Council of Representatives (COR).** Four COP and four COR meetings were held during FY96. The following is a summary of interagency activities:

- ▶ Endorsed OMNCS approach and schedule in response to the Kyl Amendment
- ▶ Endorsed the NSTAC XVII agenda



- ▶ Approved closure of Vision 21, Issue 10, *Wireless Technology Should Be Fully Used In Supporting NS/EP Requirements*
- ▶ Endorsed NCAP implementation recommendations
- ▶ Approved, via mail vote, closure of the NCS Vision 21 process
- ▶ Nominated, via mail vote, Federal Government members to the TSP Oversight Committee.

**COP Executive Session.** A special Executive Session was held on December 15, 1995, for the Principals and the Manager, NCS, to discuss the COP Vice Chair position. In addition, the Principals were provided information on the restructure of the OMNCS and its relationship to member organizations. As a result of the session, the Principals voted to defer further consideration of activating the vice chair position.

**The President's National Security Telecommunications Advisory Committee (NSTAC).** The NSTAC held its 18th meeting on February 28, 1996, in the Loy Henderson Auditorium, Department of State. The central theme for this meeting was information assurance. Several presentations described the threats to information systems, infrastructure vulnerabilities, and potential consequences of an electronic attack against the Nation's most critical infrastructures. In addition, the NSTAC provided recommendations to the President on wireless services, including CPAS, and on the national information infrastructure (NII) and the evolution of the global information infrastructure. To further discuss and better understand the threats to information systems, a special NSTAC session was held on May 23, 1996. One of the challenges evident from both of these meetings was to educate other corporate leaders on the need to protect the information systems that support their industry. To that end, the NSTAC enhanced their outreach efforts. The major thrust of their

outreach is to increase key industry leaders' awareness of the vulnerabilities and threats to the Nation's critical information infrastructure and to identify measures to mitigate them.

**NSTAC's Cellular Priority Access Service (CPAS) Subgroup Activities.** In July 1994, the President's NSTAC established the CPAS Subgroup to investigate technical, administrative, and regulatory issues associated with the development of a nationwide CPAS capability. The CPAS Subgroup provides a forum for industry and Government organizations to define, scope, and address the many difficult issues related to cellular priority access capabilities. In January 1995, the President tasked the OMNCS to develop a capability to provide NS/EP users with priority access into wireless communications systems. Currently, the CPAS Subgroup is establishing a platform for the development of a comprehensive priority access implementation strategy.

**NSTAC's National Information Infrastructure Task Force (NIITF) Activities.** Following a tasking from the NSTAC XVIII meeting, the NIITF developed a detailed concept paper on an industry-led Information Systems Security Board (ISSB) and solicited feedback and comments from a wide variety of industry and Government organizations. The goal of the ISSB is to establish an authority for commercial information security practices and certifications. The ISSB would promote information systems security principles and standards to improve the reliability and trustworthiness of information products and services. A series of information outreach briefings on the ISSB concept were presented to major computer vendors, security professionals, information technology trade associations, insurance agents, and other interested groups. Over 100 senior industry managers were contacted by mail to further assess the value of the ISSB. The consensus indicates a serious need for an organization like the ISSB and that Government involvement should be minimal. Currently, the NIITF is encouraging the formulation of an

organizational framework and developing an implementation strategy.

**NSTAC's National Security Emergency Preparedness (NS/EP) Group Activities.** In October 1995, industry and Government conducted a joint exercise of critical telecommunications facilities to evaluate the effectiveness of protection guidelines during civil disturbances. Currently, the group is evaluating the transition procedures of those guidelines for transferring critical facilities protection from Federal to State control. Also, the group is reviewing legal aspects of the use of Federal versus non-federal National Guard troops to protect critical telecommunication facilities. In addition, the group is assessing international Mutual Aid Agreements and the threat of nuclear, biological, and chemical agents against telecommunications assets.

#### **INFORMATION ASSURANCE ACTIVITIES**

During FY96, the Information Assurance (IA) Branch continued to coordinate the network and information security initiatives of the NCS, NSTAC, Congress, the Executive branch, and other public and private organizations. These initiatives included risk assessments of the PSN and the electric power infrastructure, an R&D exchange on industry and Government R&D projects to address network security concerns, participation in global games highlighting information warfare issues, and the submission of a statement to the U.S. Senate on NSTAC's role in IA. In addition, the IA Branch continued PSN modeling and analysis activities conducted at the NCS Network Design and Analysis Center (NDAC).

**Network Security Information Exchange (NSIE) Activities.** In December 1995, industry and Government NSIE representatives published a risk assessment in which they concluded that they believed the overall risk to the PSN was greater currently than it had been perceived to be during the last formal risk assessment in 1993. They emphasized that legislation on computer crime, R&D, education, training, and awareness represents a significant

deterrent that should be continued and enhanced through joint industry and Government efforts. The NSIE representatives fundamentally concluded, however, that security is everybody's problem. The NSIE's also sponsored a Data Network Security Symposium that was heavily attended by industry and Government participants.

**NSTAC's Information Assurance Task Force (IATF) Activities.** In early FY96, the IATF met with members of the private sector, the national security community, and civil departments and agencies and concluded that electric power, financial services, and transportation were three of the most critical of the infrastructures supporting NS/EP interests. Using its risk assessment methodology — scoping, data collection, analysis, report preparation — the IATF interviewed industry associations, independent companies, and Government agencies to gather data and conduct a vulnerability analysis of the electric power infrastructure. A final report on this infrastructure is due in October 1996, when a risk assessment of the financial service infrastructure will be initiated.

**NSTAC's Network Security Group (NSG) Activities.** In September 1996, the NSG sponsored a joint industry and Government R&D exchange that focused on issues of authentication, intrusion detection, and access control. Industry representatives from AT&T, Bellcore, CSC, EDS, ITT, Mitre, UNISYS, and Government representatives from DOE, Defense Advanced Research Projects Agency, National Security Agency (NSA), and NIST shared the latest R&D concepts with an extensive industry and Government audience. The NSG also began a study to examine the effects of the *Telecommunications Act of 1996*, increased competition, and open network architectures on network security and NS/EP users in particular.

**Hearings on "Security in Cyberspace" and Global Games.** During this fiscal year, the U.S. Senate Committee on Governmental Affairs

Permanent Subcommittee on Investigations conducted several hearings with industry and Government representatives on information security. The NSTAC provided a statement on its information assurance activities and the NSTAC-NCS construct for the subcommittee's final report. The NSTAC and the NCS also developed IA scenarios that were well received during the Global Games '96, which occurred in summer 1996.

**Modeling and Analysis.** In FY96, the IA Branch continued to improve the NDAC capabilities by adapting current models to new technologies, including cellular traffic congestion. Methodologies were developed for additional modeling improvements to be adopted in FY97 to account for Asynchronous Transfer Mode switching and Synchronous Optical Network ring architectures. Several studies were conducted to analyze PSN vulnerabilities and determine enhancements provided through the NLP.

#### **NCS INFORMATION ASSETS**

In performing its management functions, the OMNCS coordinated and maintained NCS issuances, published the *NS/EP Telecom News* and the *FY95 NCS Annual Report*, and managed its information resources.

**NCS Issuance System.** The NCS Issuance System is the authority regarding the internal organization, policies, procedures, practices, management, and personnel of the NCS. On February 12, 1996, the EOP approved Directive 3-9, *Communications Resource Information Sharing (CRIS) Initiative*. The Principals also endorsed forwarding NCS Directive 3-10, *NS/EP Features and Capabilities for the NII*, to the EOP for approval.

**NS/EP Telecom News.** The *NS/EP Telecom News*, published bimonthly by the OMNCS, provides an NS/EP impact assessment for the NCS and NS/EP telecommunications community and helps the NCS member organizations keep abreast of legislative, regulatory, judicial, technological, and executive developments.

## **TECHNOLOGY AND STANDARDS**

The mission of the Technology and Standards Division is to perform technical studies, analyses, and technology demonstrations. R&D efforts identify new approaches for the NCS to apply toward the fulfillment of NS/EP objectives. The OMNCS also develops plans, procedures, and standards. These development efforts seek to improve the functional interoperability, reliability, security, and network management of commercially provided telecommunications and information systems used by the Government. In concert with technology activities, the OMNCS manages the Federal Telecommunication Standards Program (FTSP), which promotes Government telecommunications interoperability, reliability, and security.

The Federal Telecommunication Standards Committee (FTSC) ensures, wherever feasible, that existing or evolving voluntary industry, national, and international standards are used as a basis for Federal telecommunications standards. Consequently, the FTSP facilitates Government competitive acquisitions of relatively lower cost and interoperable telecommunications products, services, and systems.

## **TECHNOLOGY**

Technology activities continued under the auspices of E.O. 12472. These activities enable the OMNCS to focus on relevant evolving and emerging telecommunications technologies that have significant potential impact for NS/EP applications.

#### **WIRELESS COMMUNICATIONS/ EMERGING TECHNOLOGIES**

Wireless communications are most closely identified with increased terminal and personal mobility. Terminal mobility describes the ability to use wireless devices that are not restricted to one physical location. Personal mobility allows users to obtain their own individualized set of service offerings, regardless of their physical access and location in the network. Personal mobility relies on network



intelligence to locate the individual and to deliver the requested service.

The NCS Technology and Standards Division analyzed the current state of commercial wireless technology and standards, along with associated implications to NS/EP telecommunications. Analysis focused on the eight wireless technology topics summarized below.

**Number Portability.** Number portability efforts focused on methods to permit an NS/EP subscriber to change local service providers, network services, and geographic locations, all without changing telephone numbers.

**Cellular Radio.** Digital cellular products are becoming available. Both the analog and digital cellular products are based on standards developed by the TIA TR45 Standards Committee. The OMNCS actively champions NS/EP requirements in the appropriate TIA Standards Committee, including the development of priority treatment services via the CPAS effort.

**Licensed Personal Communications Services (PCS).** The OMNCS champions NS/EP requirements, such as development of priority treatment services, in the appropriate standards bodies. Major efforts focus on the standardization of the stage 2 service description — PACA for PCS.

**Unlicensed PCS.** The OMNCS tracks the development of products and services that will operate in the Unlicensed PCS spectrum near 2 GHz to determine their suitability for supporting the NS/EP mission. When available, Unlicensed PCS products are expected to use nonstandardized, proprietary applications and solutions, raising NS/EP interoperability concerns.

**Mobile Satellite Systems (MSS).** The OMNCS anticipates that MSS technology may experience dramatic changes as it evolves toward becoming an integral part of a wireless communication infrastructure capable of

providing a broad range of communications services without restricting the user to a particular location or environment. The OMNCS observes the progress of the Big LEO service providers as they seek to identify and resolve the security and interoperability concerns of potential NS/EP users. Furthermore, the OMNCS joined a newly created TIA committee that addresses satellite standards development.

**Wireless Local Area Networks (LAN).** Wireless LAN's may be useful as an adjunct or replacement to wired LAN's in situations where new cable installation is infeasible, temporary, or requires rapid deployment. The OMNCS is participating in the development of wireless LAN standards addressing interoperability and security concerns of potential users.

**Wide Area Mobile Data Networks.** Wireless data technology is being adopted by users who seek the ability to transmit and receive data anytime and anywhere. Wide area mobile data networks could provide nationwide mobile data service to NS/EP users. The OMNCS is monitoring the capabilities and applications of mobile data networks to determine their suitability to NS/EP missions.

**International Mobile Telecommunications-2000 (IMT-2000).** IMT-2000 is a proposed international third-generation wireless communication standard that aims to unify the diverse wireless systems that exist into a radio infrastructure capable of offering a wide range of services around the year 2000. The OMNCS is participating in U.S. working group meetings preparing for International Telecommunication Union—Radiocommunication Sector (ITU-R) Study Group's 8 meetings.

#### **FEDERAL WIRELESS USERS FORUM (FWUF)**

The NCS and NIST co-sponsored a May 1996 FWUF Workshop. The workshop provided an opportunity for potential and current Government wireless users to obtain



information on evolving wireless technology, define Government wireless requirements, and interface with industry and Government representatives. Additionally, the workshop was conducted in conjunction with the DOE LMR and wireless working group. This group was established to develop a migration plan from existing radio communications systems to new wireless telecommunications services.

#### **ELECTRONIC IMAGERY**

**Video Teleconferencing (VTC).** FY96 was an active year for Technology and Standards Division personnel in the area of VTC standardization. The International Telecommunication Union—Telecommunication Standardization Sector (ITU-T) has approved many new standards related to VTC. Among the most important of these recommendations are the H.324 series that defines a multimedia communication terminal that enables VTC over the public switched telephone network (PSTN). Before the approval of this new series of standards, transmission of VTC over the PSTN was proprietary. The approval of the H.324 series of standards brings with it the possibility of new applications. These applications include enhanced telecommuting capabilities, new disaster recovery tools, and enhanced surveillance tools. In addition, the Federal worker will now have improved capabilities to access each other on a worldwide basis.

In concert with the approval of the H.324 series of standards, the ITU-T is also finishing work on a new set of standards, H.324M, that will extend VTC to a mobile environment. The H.324M series of standards includes enhanced versions of the H.324 series. These versions are being developed with a number of error protection tools that will address a wide range of mobile networks (i.e., regional, global, cordless, and cellular). The essential areas being worked include speech and video error protection, communication control, and multiplexing.

The Technology and Standards Division foresees using VTC equipment based on these standards as a new tool to provide better

disaster recovery services. Presently, wireless radio systems have supported disaster recovery; with the standardization of video systems utilizing wireless transmissions capabilities, the flow of pictorial information will enhance the allocation of resources.

**Facsimile.** In consultation with NSA, the Technology and Standards Division is actively participating in the development of a security option to commercial-off-the-shelf facsimile equipment. In the EIA and ITU-T, work is nearing completion on the addition of several Class 3 type security services to the facsimile standards. The services include authentication, confidentiality, nonrepudiation with proof of origin, and nonrepudiation with proof of delivery.

In addition to new security services, work is also nearing completion on the addition of a new optional capability for color. The primary focus of the work is to provide support for mixed content image pages. A mixed content image page contains black-and-white information combined with various types of color information.

**Other Electronic Imaging.** The OMNCS has acquired an optic-based electronic imaging storage and retrieval system for the document retention. The system allows the OMNCS to archive documents and provides a viewing and printing capability. The system is fully operational in two directorates and is being extended to support all OMNCS personnel. Document storage in the Technology and Standards Division and Resource Management Division has been completed.

#### **STANDARDS**

The importance of standards has been emphasized by the Clinton administration's Information Infrastructure Task Force, where one of the nine NII goals is "seamless, interactive user-driven operations" through standards. Recognizing this importance, the NCS participates in the development of Federal, national, and international standards under the FTSP structure. This participation is in

accordance with the standards provisions of two Government documents: E.O. 12472, and OMB Circular Number A-119, *Federal Participation in the Development and Use of Voluntary Standards*, October 20, 1993.

With respect to E.O. 12472, the OMNCS ensures "wherever feasible that existing or evolving industry, national, and international standards are used as the basis for Federal telecommunications standards." With respect to OMB Circular Number A-119, the NCS promotes "participation by knowledgeable agency employees in the standards activities of voluntary standards bodies and standards-developing groups, both domestic and international." This NCS participation provides opportunities to review evolving commercial standards for potential NS/EP applications. Participation in the commercial standards development process also positions the NCS more favorably with industry.

only on evolving commercial standards, but also on comments from industry, Government, and the public. Monthly committee meetings were held to review proposals for standards and to develop recommended positions that could be supported by Federal Government officials, as members of national and international standards committees. Additionally, the committee coordinated proposed Federal telecommunications standards with manufacturers, State and local governments, and the public. The committee transmitted all fully coordinated proposed Federal telecommunications standards, through the Manager, NCS, to GSA or NIST, as applicable, for approval and publication.

#### FTSC SUBCOMMITTEE ACTIVITIES

**High-Frequency Radio.** HF Radio standards activities are presented in Exhibit 3-11.

EXHIBIT 3-11  
HIGH FREQUENCY RADIO STANDARDS

STANDARD	NAME	ACTION
1045A	HF Radio Automatic Link Establishment (ALE) Corrigendum	Approved and published effective August 7, 1996
1052	HF Radio Modems	Approved and published effective August 7, 1996

Therefore, NCS commercial standards contributions, based on NS/EP requirements, have a greater potential for acceptance by the telecommunications industry.

#### FEDERAL STANDARDS

**Federal Telecommunication Standards Committee (FTSC).** The FTSC, chaired by the Chief, Technology and Standards Division, continued to develop Federal telecommunications standards to meet specific Government NS/EP requirements. Federal telecommunications standards development was based not

**Land Mobile Radio (LMR).** Project 25, a joint Federal, State, and local government effort, develops standards for narrowband digital LMR with assistance from the TIA. The CD-ROM, entitled *Project 25, The TIA-Published 102-Series Documents, May 1996*, contains the 20 Project 25 documents published by the TIA as of May 1996. Five proposed draft Federal standards were approved by the FTSC and forwarded for publication.

**Glossary of Telecommunications Terms.** A proposed Federal standard, entitled *Glossary of Telecommunications Terms, 1037C*, was

approved by the FTSC and published by GSA. The NCS Home Page contains this standard. In addition, this standard will be available on CD-ROM in FY97.

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**COMMERCIAL STANDARDS**

To improve NS/EP telecommunications interoperability, the OMNCS participated in national and international standards organizations that develop commercial standards for the public. The development of commercial standards by these organizations will result in telecommunications infrastructures that far exceed current capabilities and features. The OMNCS participated in the following technical focus areas:

- ▶ Broadband Integrated Services Digital Network, including the key technology of Asynchronous Transfer Mode
- ▶ Intelligent Networks (IN), including the emerging technology of AIN
- ▶ Facsimile
- ▶ Multimedia
- ▶ Switching System 7
- ▶ Security
- ▶ Video.

A summary of the benefits derived as a result of NCS participation in commercial standards development includes the following:

- ▶ Direct promotion of NCS interests during actual standards development
- ▶ Knowledge of emerging telecommunications technologies of direct interest to the NCS
- ▶ Knowledge of evolving commercial architectures, services, features, and functions that have viable potential for use in NS/EP telecommunications applications.

**NATIONAL STANDARDS**

Participation in the establishment of national commercial standards centered on two key standards organizations that develop NII standards: the Alliance for Telecommunications Industry Solutions (ATIS) and the TIA.

Participation in ATIS standards development activities encompasses official voting membership responsibilities during standards committee plenary sessions and during applicable letter ballot processes. The OMNCS reviewed, commented when appropriate, and voted on numerous proposed standards using the letter ballot process.

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**INTERNATIONAL STANDARDS**

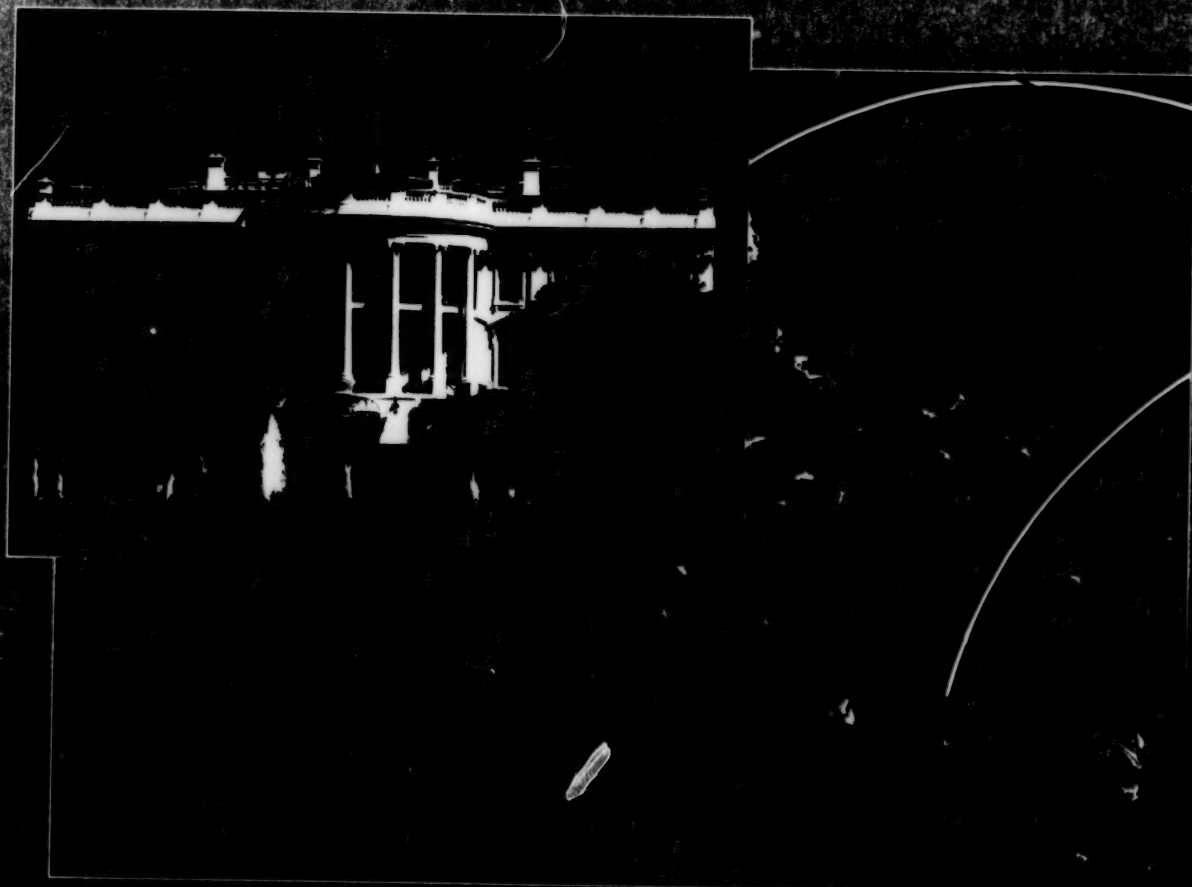
Participation in the development of international commercial standards for the global information infrastructure centered on the International Telecommunication Union (ITU). OMNCS technical personnel serve as official U.S. delegates in six ITU-T Study Groups and in two ITU-R Study Groups.

**International Telecommunications Advisory Committee (ITAC).** Additional international standards development efforts focused on the ITAC. OMNCS technical personnel, along with industry personnel, provide strategic planning recommendations on telecommunications and information policy matters in accordance with the ITAC charter. These recommendations relate to U.S. participation within International Telecommunications Treaty Organizations. Recent ITAC focus has centered on U.S. preparation for the October 1996 ITU World Telecommunications Standards Conference.



# IV.

## **NCS MEMBER ORGANIZATIONS NS/EP TELECOMMUNICATIONS ACTIVITIES**







## DEPARTMENT OF STATE (DOS)

### NS/EP TELECOMMUNICATIONS MISSION

The Department's mission is to support the President in the formulation and

execution of U.S. foreign policy. This mission determines its telecommunications support requirements. Essential DOS functions requiring telecommunications include:

- ▶ Implementing and managing a reliable, secure, responsive, survivable, cost-effective, global telecommunications network.
- ▶ Providing communications support (including data, voice, imagery, facsimile, and video) for all U.S. Government agencies at U.S. overseas diplomatic facilities.

- ▶ Maintaining a rapid response capability via alternative means that ensures the continuous availability of effective communications links independent of host country conditions.

### TELECOMMUNICATIONS STAFF ORGANIZATION

DOS telecommunications are managed through the Office of the Deputy Assistant Secretary for Information Management and the Diplomatic Telecommunications Service Program Office.

## DOS SIGNIFICANT ACCOMPLISHMENTS

Communications Security	Maintained a vigorous antivirus computer program at domestic bureaus and overseas posts.
	Established a security program for overseas and domestic mainframes.
	Assisted the U.S./North Atlantic Treaty Organization operation in Bosnia by providing a secure voice network and established secure voice circuits with several foreign ministries.
Counter-Narcotics Program	Provided imagery, automated data processing, voice, and high-speed data services to the Department of Defense (DOD) and Counter-Narcotics Command Management System.
Voice Program	Provided voice services to the foreign affairs community through the Diplomatic Telecommunications Service's (DTS) global digital network of satellite, fiber, and leased line transmission media.
Modernization Efforts	Identified a Chief Information Officer to oversee the Department's information technology initiatives.
	Established an Architecture Office to develop information system standards.
	Upgraded large mainframe systems that support mission critical applications, improved mainframe security, implemented a three-tier centralized Help Desk, provided Internet electronic mail (E-Mail) to all unclassified network users, and implemented an in-house maintenance program to reduce Department reliance on more costly outside maintenance.
	Modernized communications control facilities at Main State and the Belleville, MD, DTS Network Relay Center.
Radio Systems	Supported radio requirements for the 1996 Olympics and the United Nations General Assembly.
	Completed radio upgrades at Tel Aviv, Jerusalem, Accra, Pretoria, Seoul, Algiers, and Ankara.
Support for the Secretary of State and White House	Improved the Secretary's global secure voice and data satellite capability by purchasing 4 state-of-the-art wideband portable units, and provided VIP support communication during 33 trips, involving 63 site visits covering 191 days.
	Acquired improved printer units to provide greater system capacity in support of the Secretary's travel.
	Provided technical communications assistance linking Embassy Sarajevo to Washington, DC.
Telephone Systems	Continued to accrue savings for DOS by eliminating message unit charges through the use of dedicated T1 trunking.
	Expanded Government Emergency Telephone Service (GETS) to include approximately 400 users from the Department's bureaus and posts worldwide.
	Started a Departmentwide Enterprise Network (E-Net) backbone, which will be completed in phases over the next seven years. E-Net, when completed, will include classified and unclassified domestic bureau local area networks and Internet access.
	Installed a Federal Telecommunications System (FTS) 2000 Frame Relay network for the Department's Bureau of Consular Affairs and Diplomatic Security.
Training	Expanded technical training of communications personnel and improved the Department's Technical Training Center in Warrenton, VA. In addition, a reorganization will combine the Center with the Information Resources Management Training Organization at the Foreign Service Institute. The new organization, the School of Applied Information Technology, will be effective October 1, 1996.



## DEPARTMENT OF THE TREASURY (TREAS)

### NS/EP TELECOMMUNICATIONS MISSION

The essential functions of the TREAS requiring NS/EP telecommunications are summarized as follows:

- ▶ Protecting the President, Vice President, their families, and other dignitaries.
- ▶ Managing the economic activities of the United States, including all monetary, credit, and financial systems.
- ▶ Administering the laws pertaining to customs, taxes, alcohol, tobacco, and firearms.
- ▶ Serving as the principal economic advisor to the President.

- ▶ Accomplishing international economic and monetary control as it pertains to the well-being of the Nation.
- ▶ Manufacturing currency, coins, and stamps, and establishing methods of exchange.

### TELECOMMUNICATIONS STAFF ORGANIZATION

TREAS telecommunications are managed through the Office of the Deputy Assistant Secretary for Information Systems, under the Assistant Secretary of the Treasury for Management. Under this office, the Director, Office of Telecommunications Management (OTM), oversees National Communications System (NCS) liaison and national security and emergency preparedness (NS/EP) support activities. The Director, OTM, also provides management guidance and financial oversight to improve the Department's use of telecommunications systems. OTM ensures, through the exercise of program management authority, that TREAS bureaus have access to a cost-effective, technologically sound telecommunications infrastructure so that bureaus may carry out their missions.

The Director, OTM, is the chairperson of the Government Information Technology Service (GITS) Working Group. In this capacity, the Director is responsible for the development

of information technology applications to improve the performance of the Federal Government within the framework of the National Performance Review. GITS affords significant opportunities to examine and enhance NS/EP, with emphasis on law enforcement and security initiatives and programs.

### CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

The continuing development of a departmentwide telecommunications strategy and the implementation and evolution of the Treasury Telecommunications System (TCS) are ongoing activities that will significantly enhance the Department's NS/EP posture. TREAS actively participates in the Cellular Priority Access Service (CPAS) working group discussions and planning, the Federal Telecommunication Standards Committee (FTSC) through the OTM, and the Shared Resources (SHARES) High Frequency (HF) Interoperability Working Group through the U.S. Customs Service and OTM.

The Department's leadership in the activities of the GITS Working Group positions TREAS as a key stakeholder in all future NCS NS/EP initiatives.

### TREAS SIGNIFICANT ACCOMPLISHMENTS

Awarded a \$425 million telecommunications services contract to support the TCS. TCS is a cornerstone system to support an evolving set of applications and employing FTS2000 long distance circuitry to provide telecommunications services to TREAS, its bureaus, and partnership agencies.

Successfully completed the transition of the TREAS Consolidated Data Network to the TCS. Concurrently undertook a comprehensive analysis and review of requirements for diverse rerouting of TREAS circuits implemented through the FTS2000 contract.

Selected for transition of FTS2000 services from Network A (AT&T) to Network B (Sprint) in support of the Price Redetermination and Services Reallocation process. This transition, begun in January 1996, requires the complete transition of TREAS long distance services. Completion of the transition is anticipated in early calendar year 1997.

Participated with the National Computer Security Association and other agencies to review Internet firewall functional security requirements leading to the publication of Government-approved firewall arrangements.

Developed and submitted a proposal to the Interagency Management Council (IMC) to provide an Administrative Management Domain function for Government agencies. This proposal includes E-Mail services and Electronic Commerce Clearing House.

Continued to support the Telecommunications Service Priority (TSP) and GETS programs through TREAS membership on the TSP Oversight Committee and the GETS User Council.



## DEPARTMENT OF DEFENSE (DOD)

### NS/EP TELECOMMUNICATIONS MISSION

Under the provisions of Executive Order (E.O.) 12472, DOD is assigned the following NS/EP telecommunications responsibilities:

- ▶ Provide, operate, and maintain the telecommunications services and facilities to support the National Command Authorities and execute the responsibilities assigned by E.O. 12333, *United States Intelligence Activities*, December 4, 1981.

- ▶ Ensure that the Director, the National Security Agency (NSA), provides the technical support necessary to develop and maintain adequate plans for the security and protection of NS/EP telecommunications.
- ▶ Execute the functions listed in Section 3(I) of E.O. 12472.

### TELECOMMUNICATIONS STAFF ORGANIZATION

DOD includes the Office of Secretary of Defense (OSD), the military departments and the services within them, the unified and specified commands, and other agencies established to meet specific U.S. military requirements. The Defense Information Systems Agency (DISA) is a separate DOD Agency under the direction, authority, and control of the Assistant Secretary of Defense (ASD) for Command, Control, Communications and Intelligence (C3I).

The principal staff positions concerned with NS/EP telecommunications in the OSD are the Under Secretary of Defense for Policy and the ASD for C3I.

Command, Control, Communications systems are the concern of a directorate of the Joint Staff (JS).

### CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

The ASD for C3I has established an Information Assurance Group for the purpose of accomplishing improved planning, coordination, review, and synchronized development and implementation of information assurance policies, initiatives, technologies, programs, and related budgets for DOD. The NCS has representation on this group and is expected to provide invaluable assistance relative to industrywide and Governmentwide policy and procedures related to information assurance.

## DOD SIGNIFICANT ACCOMPLISHMENTS

Defense Information System Network (DISN)	DISA is continuing to make significant advances in the building of an affordable and fully integrated, interoperable global information transport utility. By the end of 1996, all four acquisition packages for DISN in the Continental United States (CONUS) will have been awarded, thus setting the stage for a worldwide high bandwidth Common Operating Environment (COE) in support of the DOD "war fighter," disaster recovery operations, and peacekeeping missions. The DISN COE will support secure and unsecured voice, data, and E-Mail; video teleconferencing; imagery; and directory services. While the CONUS segment of DISN is being implemented, activities in both the European and Pacific Theaters are also under way. Worldwide DISN implementation will help to provide the infrastructure required to connect DOD locations worldwide with deployed forces and NCS disaster recovery teams where they are needed.
Defense Message System (DMS)	<p>The DMS contract was awarded on May 1, 1995. It is an Indefinite Delivery/Indefinite Quantity contract providing the initial components and services for secure, reliable electronic messaging to the war fighter.</p> <p>DMS implementation is well under way. Initial Operational Test Sites are at Columbus, OH; the DISA National Capitol Region; Ft. Huachuca, AZ; Patch Barracks, Germany; Barksdale, CA; San Diego, CA; Pearl Harbor, HI; and Quantico, VA, and are operational using Lotus Notes, Microsoft Exchange, and Enterprise Solutions Ltd. components.</p> <p>Messaging components are completing conformance, compliance, interoperability, functional, security, and performance testing at the Joint Interoperability Test Center. The first class of systems administrators has graduated and pilot implementations are operational. DMS was demonstrated at 12 sites during the Joint Warrior Interoperability Demonstration '96.</p> <p>Implementation of DMS is phased with the closure of the Automatic Digital Network (AUTODIN). DISA, the military services, and defense agencies have developed AUTODIN closure plans that are consistent with DMS implementation plans to ensure that AUTODIN is closed by December 1999.</p>





## DEPARTMENT OF JUSTICE (DOJ)

### NS/EP TELECOMMUNICATIONS MISSION

The NS/EP telecommunications mission for DOJ is to provide telecommunications facilities and services in support of DOJ NS/EP essential functions. The NS/EP responsibility is centralized in the Justice Management Division for all Department entities except the Federal Bureau of Investigation (FBI) and the Drug Enforcement Administration (DEA). These bureaus maintain separate secure network facilities.

### TELECOMMUNICATIONS STAFF ORGANIZATION

The Director, Telecommunications Services Staff (TSS), under the Deputy Assistant Attorney General for Information Resource Management (IRM), operates and manages DOJ's message processing system and the Telecommunications Service

Center. TSS also provides networking and technical assistance to DOJ's offices, boards, and divisions. Secure message transmission is offered through separate facilities.

The Information Security Policy Group (ISPG) Security and Emergency Planning Staff is responsible for security oversight of all national security communications systems within the Department. The ISPG also administers the Secure Telephone Unit III (STU-III) program for the Department. The DEA and FBI administer their own STU-III programs.

### CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

The following current and ongoing DOJ activities support NS/EP objectives:

- ▶ DOJ continues its active participation in the NCS activities of the Committee of Principals (COP) and Council of Representatives (COR), attends the President's National Security Telecommunications Advisory Committee (NSTAC) meetings, and participates in the NCS NS/EP telecommunications support, activities, and programs.
- ▶ DOJ continues its vigorous support of NCS National Information

Infrastructure (NII) activities; Government NS/EP telecommunications activities; NS/EP planning, programming, and contingency programs; and emerging NS/EP telecommunications programs. Additionally, the Department is an active participant in the GETS Program, the FTSC, the TSP Program, the SHARES HF Radio Program, and the Communication Resources Information Sharing (CRIS) Initiative.

- ▶ DOJ signed a joint agreement between the Attorney General and the Secretary of the Treasury that established the Federal Law Enforcement Wireless Users Group (FLEWUG). The FLEWUG is responsible for the development of a nationwide wireless tactical network for use by Federal, State, and local law enforcement and public safety entities.
- ▶ DOJ continues its active support of the FISC's HF Radio Subcommittee and chairs the HF Radio Subcommittee Statement of Requirements Working Group. It participates in the Fiber Optics Subcommittee and the Land Mobile Radio Subcommittee and their associated working groups.

### PENDING ISSUES

DOJ continues monitoring GETS for its impact on the Department.

## DOJ NS/EP TELECOMMUNICATIONS ACCOMPLISHMENTS

DOJ provided one full-time employee to meet the Office of the Manager, NCS (OMNCS), staffing support requirements, as required by E.O. 12472.

DOJ participated in the NCS Vision 21 Focus Team process. A senior staff member served on each of the three Focus Teams.

TSS provided operational telecommunications services by managing, engineering, and operating the DOJ nationwide data telecommunications systems service for all DOJ, except the FBI.

The Department and its bureaus continue to actively participate in the SHARES HF Radio Program. HF radio stations from the Department TSS and the DEA, FBI, and the Immigration and Naturalization Service participate in passing NS/EP traffic during each SHARES exercise.

The Department sponsored GETS participation at the 1996 National Law Enforcement Telecommunications System (NLETS) Annual Conference in Sacramento, CA. GETS seminars were presented and a demonstration booth was available to NLETS representatives from all 50 states to make them aware of the GETS Program.





## DEPARTMENT OF THE INTERIOR (DOI)

### CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

The Department's mission is to efficiently manage the Nation's natural resources. The National Interagency Fire Center (co-managed with the United States Department of Agriculture [USDA]) in Boise, ID, is the Department's primary emergency support facility for the

suppression of forest fires. Emergency mobile radio systems, from multiple radio caches strategically located throughout the United States, are available for fire fighting and other national emergencies. The Department and the USDA recently agreed to implement a flight-following radio network that will allow for the tracking and control of low-flying fire fighting aircraft.

A Departmental nationwide communications network (DOINET) has been implemented to support department-wide administrative systems, bureau programs, and other agency needs. The network's architecture is based on cell switching technology and consists of redundant switches and circuitry for high reliability. The newly implemented Alaska Regional Telecommunications Network uses DOINET to connect to CONUS and is based on DOINET technologies. These networks provide economical Internet and shared information processing system access for the Department's bureaus.

Shared use has lowered costs, improved performance, and increased the availability of data, video, and voice services.

Procurement has been initiated for the acquisition of narrowband radios in response to the National Telecommunications and Information Agency (NTIA)-mandated 10-year transition to narrowband land mobile radio operations. Contract award in late fiscal year 1997 (FY97) will provide the availability of low-cost standardized digital radios throughout the Department. Non-Interior agencies will also be able to use the contract to buy narrowband radio equipment and systems.

Key officials, emergency coordinators, and telecommunications managers now have GETS access cards for long distance emergency telephone communications. User policies and instructions were provided with the distribution of the GETS personal identification number (PIN) cards.



## UNITED STATES DEPARTMENT OF AGRICULTURE (USDA)

### CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

- ▶ Participates in COP/COR, the President's NSTAC, the Industry Executive Subcommittee and its Issues Group activities.
- ▶ Represents USDA as an NCS member organization in OMNCS activities.
- ▶ Participates in and represents the USDA on the SHARES HF Radio Program, CRIS Initiative, FTSC, and the Federal Wireless Users Forum.
- ▶ Supports the DOS DTS.
- ▶ Participates in and represents the USDA on CPAS, FLEWUG, and other working group activities as necessary.
- ▶ Processes new requirements for STU-III's.
- ▶ Evaluates implementation of GETS telecommunications policies and monitors GETS usage and billing for USDA.
- ▶ Monitors National Security Telecommunications and Information Systems Security Committee initiatives.
- ▶ Reviews USDA telecommunications policy, resources, and staffing constraints with expanded NCS activity and workload.

### USDA SIGNIFICANT ACCOMPLISHMENTS

Reviewed and updated the USDA Emergency Coordination Center and the Office of Chief Information Officer policy guidance from the NS/EP telecommunications perspective.

Identified GETS requirements and signed a memorandum of agreement for GETS with the OMNCS.

Participated in the NCS Vision 21 process and the NII Reliability and Vulnerability Working Group.

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## DEPARTMENT OF COMMERCE (DOC)

### NS/EP TELECOMMUNICATIONS MISSION

The Commerce mission includes domestic and international trade, commodities, invention, economic analysis of census and industry, and technology-related patents and standards. Its technology role includes monitoring and analyzing environmental data for weather, oceanic, and geophysical reporting of critical early warnings of emergencies to prevent loss of human lives and damage to property. Commerce missions are ongoing during national emergencies and support national level NS/EP activities in all-hazard emergencies, including stress periods during peacetime, crisis and mobilization, as well as late trans-attack and early post-attack (LTA/EPA). These missions include 15 activities

supporting NS/EP functions from E.O. 12656 and E.O. 12472, that require implementing plans during peacetime and activating plans during crisis/mobilization and LTA/EPA.

### CURRENT NS/EP TELECOMMUNICATIONS ACTIVITIES

- ▶ The International Trade Administration (ITA) continued to upgrade data communications services to provide access over the DOS X.25 packet switching network to support international trade.
- ▶ The Economics and Statistics Administration and the Census Bureau continued to enhance information collection and delivery using automated platforms connected to national networks for delivery to regional and central processing facilities.
- ▶ The National Oceanic and Atmospheric Administration (NOAA) and the National Weather Service (NWS) continued enhancements to telecommunications that support weather data collection and

distribution among field observation offices and processing centers of public warnings and forecasts. The organizations continued to implement upgraded telecommunications capabilities to support deployment of advanced weather interactive processing systems.

- ▶ NOAA/NWS continued to deploy Doppler radar as an effective weather information gathering platform with the wind profiler program.

### PENDING ISSUES

DOC continued to use NCS-supported programs to enhance NS/EP services, such as TSP, GETS, SHARES, CRIS, and the new Emergency Response Link (ERLink). Commerce continues as the lead Government agency implementing wireless communications technology with the new CPAS. Commerce plans continued use of these services as more regions and locations access these services. As the NCS strategic plan provides agencies with a more responsive role, proactive programs will be implemented. Cost continues to be a key issue for the agencies. Early program involvement is essential to program success in the Governmentwide arena.

## DOC SIGNIFICANT ACCOMPLISHMENTS

ITA upgraded communication links with the DOS DTS network for processing domestic and foreign commercial information and E-Mail for international trade.

NOAA upgraded high-speed 10-Mbps services to enhance the transfer of information between major data centers, including services for the NII and gateways to the Internet to support electronic commerce.

NOAA implemented frame relay services to enhance connectivity between computing centers and regional customers.

NOAA and the National Environmental Satellite Data and Information Service (NESDIS) expanded the search and rescue satellite (SARSAT) data network to lead the Western Hemisphere effort for SARSAT information gathering and distribution.

NOAA/NESDIS activated a new Geostationary Operational Environmental Satellite weather information satellite for gathering information used in warnings and forecasts data to domestic and international countries.

DOC headquarters expanded its telecommunications management system to enhance management of operating unit communications and upgraded DOCnet's performance monitoring capability.

DOC headquarters upgraded its network to 10-Mbps services between major data centers and information system users, and upgraded Internet access to Commerce "Home Page." Access includes bureaus' information services, i.e., National Trade Data Base from the Economic Development Administration, and FedWorld from the National Technical Information Service.



## DEPARTMENT OF HEALTH AND HUMAN SERVICES (DHHS)

### NS/EP TELECOMMUNICATIONS MISSION

DHHS manages several essential functions requiring NS/EP telecommunications. Under the *Federal Response Plan*, DHHS has responsibility to supplement and assist State and local governments in identifying and meeting the health and medical needs of victims of major emergencies or disasters, including:

- ▶ Overall public health response; the triage, treatment, and transportation of disaster victims; and the evacuation of patients out of a disaster area into a network of hospitals located in major metropolitan areas of the United States.
- ▶ Managing the health consequences of nuclear, biological, or chemical weapons.

- ▶ Restoring and protecting the public health by providing technical assistance and services in the areas of health and medical needs assessment; health surveillance; medical care personnel; medical equipment and supplies; food, drug, and medical device safety; worker health/safety; mental health; public health information; vector control; potable water; wastewater and solid waste disposal; veterinary medical services; and victim identification and mortuary services.

During national security emergencies, DHHS is additionally responsible for the following:

- ▶ Mobilizing the health industry and health resources.
- ▶ Promoting State and local programs for the provision of health, mental health, and medical services.
- ▶ Allocating health, mental health, and medical service resources among civilian and military claimants.

### TELECOMMUNICATIONS STAFF ORGANIZATION

Within DHHS, NS/EP telecommunications planning is assigned to the Office of Emergency Preparedness within the Office of Public Health and Science, reporting to the Assistant Secretary for Health. This is a telecommunications planning coordination

point among the operating divisions and 10 DHHS regional offices.

### CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

DHHS continues to coordinate NS/EP telecommunications planning with other departments and agencies through active participation in NCS processes, including the COP/COR, Vision 21 Focus Team activities, SHARES, NSTAC, GETS, TSP, and CRIS.

DHHS continues its efforts to improve its capability to conduct field communications from disaster areas when the normal telecommunications infrastructure is damaged.

In view of new threats and newly assigned responsibilities, an effort to examine the adequacy of existing telecommunications resources to support DHHS response to acts of terrorism using weapons of mass destruction will be required.

## DHHS SIGNIFICANT ACCOMPLISHMENTS

During FY96, DHHS continued to develop its telecommunications infrastructure for responding to emergencies. An integrated wide area computer network now links emergency coordinators in all 10 regional offices and work continues to develop the capability to extend this network into a disaster area.

NS/EP telecommunications systems were utilized most recently in the Public Health Service support to the 1996 Olympic Games in Atlanta, GA, and Hurricanes Bertha and Fran in North Carolina.





## DEPARTMENT OF TRANSPORTATION (DOT)

### NS/EP TELECOMMUNICATIONS MISSION

DOT vigorously supports President Clinton's priority for rapid response to disasters and other emergencies. DOT's NS/EP telecommunications activities continue at a high level with recent initiatives specifically aligned to support the

President's commitment. The Department continues its strong support for NS/EP telecommunications through participation in the NCS COP, COR, and through membership on the NCS TSP Oversight Committee, as well as other activities.

### ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

The Federal Highway Administration (FHWA) activated its network of HF radio stations in response to Hurricane Bertha and in coordination with the NCS SHARES alert. FHWA operates the SHARES HF station located in the DOT Crisis Management Center (CMC). FHWA also equipped the CMC with one of 14 recently procured satellite telephones. Plans call for procurement of satellite telephones for the remaining 47 FHWA sites that provide liaison with State Emergency Operations Centers.

The Coast Guard completed upgrades to disaster response communications equipment and contingency response plans. These will enhance short-range command and control capabilities and improve communications interoperability with Federal, State, and local agency response teams.

All DOT agencies distributed GETS phone cards throughout FY96. Initial distribution is expected to be completed in FY97.

The Federal Aviation Administration (FAA) completed implementation of the 3-year Leased Interfacility National Air Space Communications System (LINCS) program that provides a terrestrial, dual-path backbone of 264 switching nodes with connectivity for 4,700 FAA facilities using more than 11,000 voice and data channels. This network is highly robust and integral to the FAA's NS/EP capabilities.

## DOT SIGNIFICANT ACCOMPLISHMENTS

In May 1996, Secretary Peña and the Federal Emergency Management Agency's (FEMA) Director Witt jointly unveiled DOT's new CMC. The center, a high-tech facility that serves as the focal point for DOT's crisis response, is staffed by a team of experts and provides centralized management of the vast flow of information during emergencies that affect all modes of transportation. The CMC is operated by DOT's Research and Special Programs Administration (RSPA), the DOT focal point for Emergency Transportation under ESF 1 (Transportation) of the Federal Response Plan. The CMC is electronically integrated with the 24-hour-a-day operations centers of the FAA and U.S. Coast Guard, which provide initial notification of crisis and continuing information. The center was first staffed for the initial response to Hurricane Opal and was also activated during DOT's response to a bomb hoax at a refinery in Texas.

During the 1996 Summer Olympic Games, DOT implemented a computerized hazardous materials information system and a program for training emergency responders in the Atlanta, GA, area to further ensure public safety. The U.S. Coast Guard provided communications support vital to national security through deployment of command and control communications assets in support of Commander, Olympic Task Force (COTF) at the Olympic Yachting Events in Savannah, GA. One of three full-function Transportable Communications Centers was deployed to the COTF Command Center on Cockspur Island, GA. A Coast Guard emergency data network interface system was also established to provide message and data communications during the Olympic Games.

In June 1996, the FAA awarded a contract establishing the FAA Telecommunications Satellite system. This system augments the FAA's land-based LINCS by providing connectivity, especially in remote areas where terrestrial communications are cost-prohibitive. The contract also contains provisions for portable and transportable connectivity to support FAA emergency response teams.

FHWA created an Emergency Planning Liaison Group within the Office of Engineering that focuses all of FHWA's emergency response activities. This group is responsible for operating the FHWA Emergency Communication System, an integral part of the NCS SHARES network.

RSPA participated as one of four agencies in the prototype of the NCS ERLink controlled access web site for sharing emergency operations information.



## DEPARTMENT OF ENERGY (DOE)

### CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

- ▶ Departmentwide efforts are continuing to provide true alternate routing of offsite telephone cables that service incoming and outgoing commercial trunks, private line services, FTS2000 network, and other services. Installation of classified audio, video, data, and radio communications systems is an ongoing effort.
- ▶ Efforts are being continued to replace obsolete radio equipment with spectrum efficient, commercial trunked radio systems that will increase coverage and provide greater management and control to emergency preparedness planners.
- ▶ Emergency Operations Centers are being reconfigured to improve efficiency and cost-effectiveness.
- ▶ Review of telecommunications facilities and services continues for additional TSP assignments to ensure the availability of critical facilities and services during emergencies.
- ▶ Efforts are under way to distribute PIN cards to emergency managers departmentwide to facilitate the use of GETS during emergencies.
- ▶ Engineering design is under way for the installation of Emergency Response Operations Network (ERON) sites at Pantax, Sandia Albuquerque, Rocky Flats, the Defense Special Weapons Agency, FBI Headquarters, the Public Health Service, the FAA, the Strategic Petroleum Reserve (SPR), the Environmental Protection Agency, the Center for Disease Control, the Coast Guard, and the White House.

### DOE SIGNIFICANT ACCOMPLISHMENTS

DOE's ERON was enhanced significantly by the installation of a team room in the FBI's National Center for the Analysis of Violent Crime, and with additional services and connectivity to DOE Oak Ridge, DOE Richland, Pacific Northwest National Laboratory, Lawrence Livermore National Laboratory, DOE Remote Sensing Laboratory, and DOE Headquarters.

Asynchronous Transfer Mode (ATM) was installed at the Nevada Operations Office to provide interconnection between Las Vegas, NV, and the Nevada Test Site (NTS). The ATM system provides a means for fully using bandwidth available on a 45 Mbps T3 circuit to provide voice and data interconnection between the two locations. Since ATM can operate over the DOE-owned microwave system and leased fiber optics, both will be used to provide enhanced emergency communications for voice and data between Las Vegas and the NTS.

Installation of the NTS Trunked Radio System has provided the contractor with a reliable Data Encryption Standard communications.

Idaho National Engineering Laboratory (INEL) completed installation of its trunked radio system expansion that provides seamless communications for transportation, safety, security, emergency preparedness, and environmental safety and health operations in support of INEL's Waste Management Program.

A new Synchronous Optical Network node provides alternate and emergency trunking capabilities in a ring configuration for the INEL Communications System Network. Idaho installed two satellite downlink systems for emergency purposes. Brookhaven National Laboratory (BNL) installed a new five-node RoIn Telephone System with Integrated Services Digital Network Primary Rate Interface connectivity to the local exchange carrier minimizing the impact to communications in the event of a single point failure.

SNL, the Bettis Atomic Power Laboratory, and the SPR have installed satellite downlinks in order to view DOE, FEMA, and other Federal and State emergency broadcasts. SPR also enhanced its mobile command post communications capabilities.

A Replacement Telecommunications System was installed at DOE's Savannah River Operations Office. It provides state-of-the-art underground fiber optic interarea networks in a dual-ring configuration to each of the site's complexes assuring continuity of telephone and data operations in the event of a single point failure.



## DEPARTMENT OF VETERANS AFFAIRS (VA)

### CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

#### CALIFORNIA EMERGENCY RADIO COMMUNICATIONS

VA maintains 28 Emergency Command and Control Radio Network sites. In addition to HF radio communications among VA sites, radio telephone patching facilitates an expanded communication capability. VA is a member of the Los Angeles Federal Board Emergency Network at the medical center in West Los Angeles, CA.

#### VA AMATEUR RADIO SERVICES AVAILABLE DURING EMERGENCY SITUATIONS

VA authorizes its medical centers to use on-campus amateur radio equipment for therapeutic purposes in veterans health care programs. Additional use of the amateur radio facilities is authorized during emergency situations. Amateur radio communications during crisis and emergencies may prove very useful. VA amateur radio operators conduct an annual emergency exercise to enhance and retain their operational capabilities.

#### SECURE TELEPHONES AVAILABLE FOR VA NS/EP

Eighty-three STU-III's are placed at strategic VA locations in support of the VA's emergency support functions. These units provide the capability to pass secure information within the VA and between the VA and other Federal organizations involved in NS/EP operations. In addition to normal secure telephone exchanges, each STU-III is tested with another VA or other Government STU-III's to ensure proper operation. Latest software updates are obtained if needed.

#### VA NATIONWIDE TELECONFERENCING SYSTEM (VANTS)

VANTS provides VA facilities with 384 ports for interactive voice (telephone) conferencing. The system allows one large conference or any number of smaller conferences up to the maximum capability. This teleconferencing system is an additional communication medium that expands the VA NS/EP inventory. The VANTS operations center is located at the VA Medical Center, Martinsburg, WV.

#### NCS NS/EP PROGRAMS

VA is an active participant in the NCS-sponsored COP, COR, SHARES, CRIS, FTSC, and GETS programs. VA supports SHARES and CRIS tabletop exercises, administers internal GETS telephone card issuance and cancellations, and provides VA presence and opinions at the FTSC, COP, and COR meetings.

### VA SIGNIFICANT ACCOMPLISHMENTS

VA Wide-Area Telecommunications Network	The VA Integrated Data Communications Utility (IDCU) has been operational since 1991 and significant improvements have been made since that time. The IDCU provides network capability to all VA facilities in the continental United States, Puerto Rico, Alaska, Hawaii, and the Philippine Islands. Individual VA local area networks are connected to the IDCU by means of routers, and provide expeditious communications with all other VA sites. At VA medical centers, Frame Relay high-speed communications are being installed and x-ray, magnetic resonance imaging, CAT scan, and other medically related image traffic is being actively exchanged. Eight medical centers are also participating in an ATM prototype network exchanging image traffic.
Emergency Satellite Telephones Added to VA NS/EP Capabilities	The Office of Emergency Medical Preparedness, located at the VA Medical Center in Martinsburg, WV, purchased five American Mobile Satellite Corporation SkyCell portable satellite telephone terminals. These units are available for deployment to crisis or disaster areas whenever needed. This new capability was tested and proved very useful in establishing emergency communications during the 1996 Olympic Games in Atlanta, GA.



## CENTRAL INTELLIGENCE AGENCY (CIA)

### NS/EP TELECOMMUNICATIONS MISSION

The NS/EP telecommunications mission of the CIA is to ensure the secure flow of all-source foreign intelligence information to the President and other selected national policymakers. To this end, CIA provides secure, rapid, and reliable round-the-clock

telecommunications and information services that are:

- ▶ Modern, robust, and flexible.
- ▶ Efficient and interoperable to support intelligence collection and distribution requirements.
- ▶ High-volume and timely for open-source collection.
- ▶ Quick-reacting in support of crises and special operational requirements wherever needed.

### TELECOMMUNICATIONS STAFF ORGANIZATION

The Office of Communications and the Office of Information Technology, under the Deputy Director for Administration, operate, manage, and maintain the CIA's messaging, telecommunications, and

information service capabilities. The agency also provides telecommunications support to other U.S. Government departments, agencies, and military services as required to support intelligence requirements.

### CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

These CIA activities support NS/EP objectives:

- ▶ Active participation in the NCS activities of the COP/COR
- ▶ Continued to support the GETS Program, the FTSC Standards Program, and the SHARES HF Radio Program.

## CIA SIGNIFICANT ACCOMPLISHMENTS

Continued to transition to online distribution of intelligence to policymakers.

Established a network management center to support the telecommunications infrastructure.

Continued to develop a cadre of personnel that is prepared to meet operation, technical, and system management requirements of modern telecommunications and automated information systems.

Provided enhanced telecommunications services between the CIA and the U.S. military services.

Provided HF equipment and training to the SHARES HF Radio Program.





## THE JOINT STAFF (JS)

### NS/EP TELECOMMUNICATIONS MISSION

The Director for Command, Control, Communications, and Computer (C4) Systems Directorate (J-6) provides advice and recommendations to the Chairman of the Joint Chiefs of Staff and the Joint

Chiefs of Staff, as directed by the Chairman, on C4 matters. The J-6 develops policy and plans, monitors programs for joint C4 systems, and ensures adequate C4 support to the Commanders in Chief (CINC), National Command Authorities, and all joint warfighters for joint and combined military operations. The J-6 leads the C4 community, conceptualizes future C4 systems architectures, and provides direction to improve joint C4 systems. The J-6 will oversee C4 support for the National Military Command System.

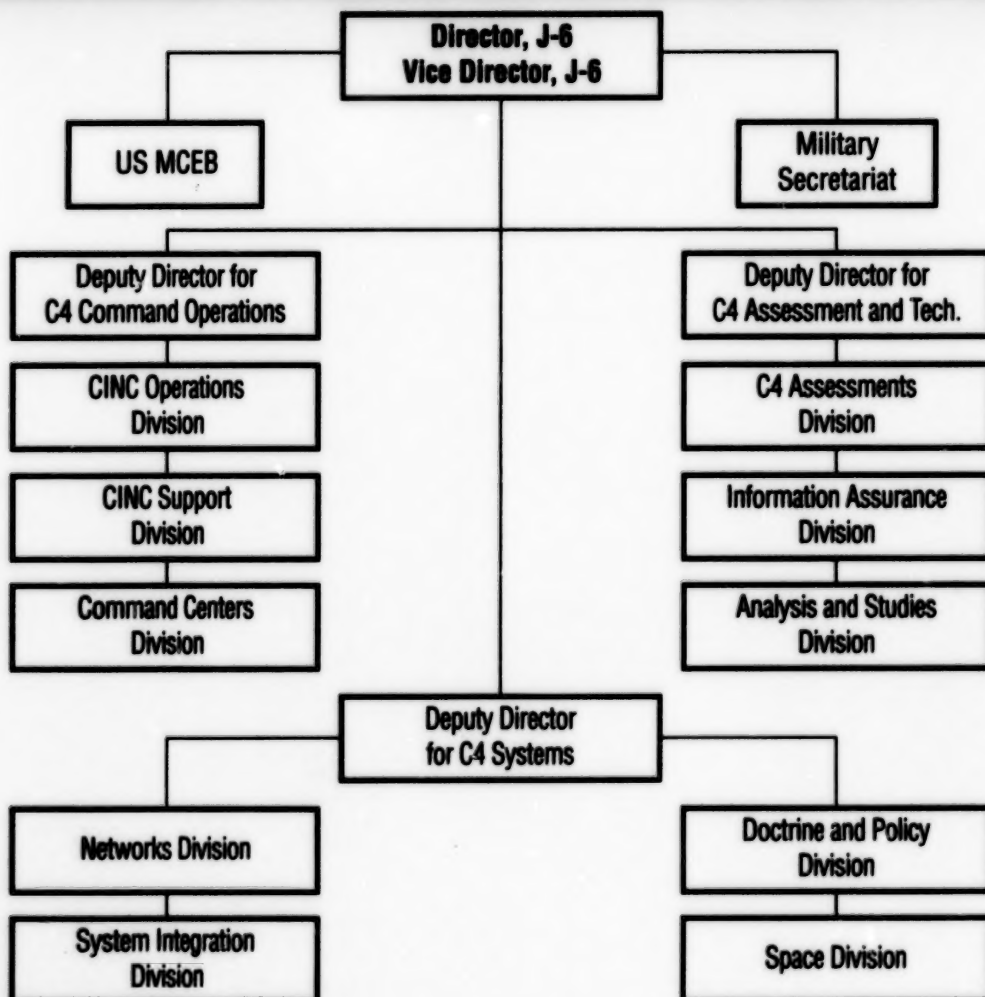
### TELECOMMUNICATIONS STAFF ORGANIZATION

The J-6 consists of the Director, a Vice Director, three Deputy Directors (C4 Current Operations; C4 Integration

and Requirements; and C4 Assessments, Information Warfare, Resources, and Advanced Technologies), and appropriate subordinate divisions. The Director is also the Chairman of the Military Communications-Electronics Board (MCEB). Each military department will have approximately equal representation by rank, number, and importance of billets throughout the Directorate. The Director and Vice Director for C4 Systems will be general or flag officers from the military departments. Exhibit 4-1 depicts the organization of the J-6 Directorate.

#### EXHIBIT 4-1

#### COMMAND, CONTROL, COMMUNICATIONS, AND COMPUTER (C4) SYSTEMS DIRECTORATE (J-6)



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## GENERAL SERVICES ADMINISTRATION (GSA)

### CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

- ▶ Proceeded with the development and preparation for solicitations in the acquisition of the replacement of the FTS2000 contracts. It is estimated that the contract will be awarded in 1998.
- ▶ Continued with the development and preparation of solicitations for the acquisition of contracts for International Direct Distance Dialing, domestic wireless, Internet access, and building wiring. All of the above encompass special contractual conditions and technical capabilities to support NS/EP.
- ▶ Continue to support the NCS by providing two detailees and Regional Emergency Communications Planners (RECP) and Federal Emergency Communications Coordinators on demand.
- ▶ Continue to support the Office of Science and Technology Policy in the development of the National Emergency Management Team in light of the changing world situation.
- ▶ In the process of moving the GSA relocation site, with plans to coordinate the function with the NCS/National Coordinating Center for Telecommunications relocation center and FEMA National Network Operations Center.
- ▶ Continue to improve GSA disaster response internal and interagency communications capability through the acquisition of mobile satellite terminals, laptop computers, and specialized state-of-the-art software application programs.
- ▶ Continue to cooperate with the NCS to develop ERLink.
- ▶ In the process of studying GSA's NS/EP organizational product line and client agency interface for further reengineering to improve efficiency and customer service.
- ▶ The GSA Federal Security Infrastructure (FSI) Program Office is providing Governmentwide support and coordination of Federal activities necessary to implement a Federal information security infrastructure. The Program Office's current work activities are focused in five thrust areas: designing and developing a system security architecture, initiating dialogue to ensure development of the overarching policy and procedures, ensuring the development of standards and specifications, facilitating pilot implementations, and providing technical advice and assistance. The FSI Program Office is supporting three infrastructure/application pilot efforts: the Civil FORTEZZA Infrastructure, travel reengineering efforts of the DOD and DOE, and the "Paperless Federal Transactions for the Public" effort supporting transition to a business environment in which Government-to-citizen transactions are electronic and private.

### GSA NS/EP TELECOMMUNICATIONS ACCOMPLISHMENTS

Consolidated the management of telecommunications products and services contracts into a single Federal Telecommunications Service to improve the interoperability, restorability, and security of NS/EP.

Developed operating and action plans to accommodate concurrent disasters and emergencies within the availability of limited resources.

Held two RECP conferences to address organizational, operational, and financial issues resulting from the impact of the dynamic supply and demand for telecommunications. Special consideration was devoted to lessons learned from the Oklahoma City, OK, bombing and the special requirements of the Atlanta Olympics, including the role of Individual Mobilization Augmentees and National Defense Executive Reservists in future operations.

Cooperated with the NCS Operations Division in developing national and regional tactical planning documents that address short-term operational deficiencies and their recommended solutions.

Cooperated with the NCS in the preparation of the Catastrophic Disaster Response Group, Core Group, and Emergency Support Function Leaders Group Terrorism Review.

Augmented internal information network arrangements to have greater access to GSA and external database information.

Prepared a business plan to address the provisioning of telecommunications services to departments and agencies to support Continuity of Operations (COOP) as a product line.

Actively participated in the development and implementation of the Atlanta Olympics NS/EP incident and consequence management plans.

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## UNITED STATES INFORMATION AGENCY (USIA)

### NS/EP TELECOMMUNICATIONS MISSION

USIA Voice of America (VOA) Broadcast System, a validated NCS asset, is available to the NCS primarily during international emergencies. The Radio Broadcast System, which provides worldwide coverage, is

equipped with high-power broadcast transmitters and a staff to coordinate program schedules, facilities, and circuits. The entire staff is available to operate the network with programming material provided by the NCS or its designated representative.

### TELECOMMUNICATIONS STAFF ORGANIZATION

The Agency's telecommunications element assigns members to the NCS COP/COR. The Director of the USIA assigns the authority to implement NS/EP procedures to the COP.

### CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

The VOA continues to update its facilities and procedures to ensure operations during an international emergency. These updates are comprehensive and cover localized events, such as demonstrations in Washington, DC; localized emergencies, such as fires and bombings; international emergencies, such as terrorist incidents; and conventional and/or nuclear war. All actions required under NS/EP and TSP procedures are being accomplished in close coordination with day-to-day operating facilities that must be operational in emergency conditions. Interoperability considerations are addressed at the time of validation by the NCS.



## NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)

### NS/EP TELECOMMUNICATIONS MISSION

The Administrator of the NASA shall (pursuant to E.O. 12656) coordinate with the Secretary of Defense to prepare for use,

maintenance, and development of technologically advanced aerospace and aeronautical-related systems, equipment, and methodologies applicable to national security emergencies.

NASA's Associate Administrator for the Office of Space Flight (OSF) has programmatic responsibility for representing the organization, on behalf of the Administrator, in the NCS process.

### SIGNIFICANT ACCOMPLISHMENTS

NASA continues to support the NCS in achieving its White House approved initiatives, including TSP, NTMS, SHARES, GETS, CRIS, FTSP, CPAS, and NSTAC.

The NASA Advanced Communications Technology Satellites Program, managed by the Lewis Research Center with the assistance of the Jet Propulsion Laboratory, rendered support to

the FBI, the military, and the uniformed marshals investigating the recent bombing at the Summer Olympics in Atlanta, GA.

NASA has made available unused TDRSS C-band capacity through a long-term contractual relationship with Columbia Communications Corp. This placed into service 36 C-band transponders for international and domestic communications. Columbia Communications Corp. is fully responsible for marketing and operations of the C-band, for which NASA receives a portion of Columbia's revenue receipts.

NASA has adopted a new strategic telecommunications strategy that will lead to the overall integration of each of the NS/EP telecommunications assets mentioned below. The aggregate of these assets will be known as the NASA Integrated Services Network.

### NASA EP TELECOMMUNICATIONS ASSETS

NASA Operational Communications System (Nascom)	NASA's mission operational telecommunications network provides communication services used in the operational conduct of flight missions, programs, and projects.
NASA Tracking and Data Relay Satellite System (TDRSS)	This constellation of geostationary satellites supports classified and unclassified customers, and provides almost uninterrupted communications with Earth-orbiting space shuttles and other supported customer satellites.
Program Support Communications Network (PSCN)	NASA's PSCN provides communication services used in the day-to-day intercenter administrative and program support activities.
Aeronautic Network (AEROnet)	AEROnet is a high-capacity network that enables the nationwide aerospace research and technology community to access NASA's Numerical Aerodynamics Simulation supercomputing facility, located at NASA Ames Research Center, CA.
Earth Observing System Backbone Network (Ebnet)	Ebnet is the project name for the wide area network being developed to support the requirements of NASA's Earth Observing System program.
NASA Science Internet (NSI)	NSI provides connectivity between NASA's space science community and its computing facilities, archives, and databases.
Deep Space Network (DSN)	DSN supports deep space interplanetary, high-Earth orbiting spacecraft, and radio science missions.





## FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)

### NS/EP TELECOMMUNICATIONS

In FY96, FEMA continued its development and coordination of NS/EP programs among Federal agencies, State and local governments, volunteer organizations, and the private sector. This sustained a national mitigation, preparedness, response, and recovery emergency management capability that is robust, comprehensive, risk-based, and all hazards. FEMA continues to adhere to the requirements of the Stafford Act, National Security Decision Directive-97, and E.O.'s 12472 and 12656.

### CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

The National Emergency Management Information System is an agencywide system that will provide a new technology

base for FEMA and its partners to carry out their emergency management missions. It will provide integrated and automated tools to support operations for human services, infrastructure support, mitigation, emergency coordination, and emergency support.

The Mobile Emergency Response Support detachments and the Mobile Air Transportable Telecommunications System provide rapid emergency communications support in the field. The FEMA Switched Network (FSN) is a terrestrial communications system linking FEMA Headquarters, the National Emergency Coordination Center, and other FEMA facilities. The Secure Voice Program provides secure telephone service between FEMA locations and State emergency operating centers (EOC). The local and wide area networks provide a nationwide, PC-based network for data communications, information processing, and office automation using the FSN.

The HF network links FEMA facilities, State EOC's, and selected Emergency Alert System (EAS) stations. The EAS is used by State officials during State and local emergencies. The National Emergency Coordination Net provides a common HF radio frequency for emergency coordination. The National Warning System is a dedicated network of 1,800 terminals for use by Federal, State, and local officials.

In late 1994, FEMA brought its "Emergency Lane" to the Internet, producing a virtual electronic encyclopedia

of emergency management information in text, graphics, and photos. The homepage Uniform Resource Locator (URL) is <http://www.fema.gov>. The response has been phenomenal and continues to grow. FEMA also supports the Emergency Community Partners Web Site. This web site enhances communication and information exchange between and among partners, enables individuals to network and benefit from professional exchange opportunities and expands the emergency community partnership concept. The homepage URL is <http://www.partner.org>. The Global Emergency Management System links Internet users to other Web sites. The Recovery Channel distributes broadcast quality programs to cable and other outlets for rebroadcast. FEMA received the National Excellence Award for its *Recovery Times* publication. This publication provides a diverse reading audience with information on emergencies and disasters, as well as FEMA's emergency management programs.



## FEDERAL COMMUNICATIONS COMMISSION (FCC)

### CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

#### TELECOMMUNICATIONS ACT OF 1996

In early 1996, Congress passed the *Telecommunications Act of 1996*, which gave the FCC new directions and established timelines for carrying them out. It is the first major overhaul of the telecommunications law in almost 62 years. The goal of this new law is to permit anyone to enter any communications business and

allow communications businesses to compete in any market against each other. Most of the FCC's effort this year has focused on this new law.

The *Telecommunications Act of 1996* has the potential to change the way Americans work, live, and learn. It will affect all local and long distance telephone service, cable programming and other video services, broadcast services, and services provided to schools. The FCC plays a critical role in creating fair rules for this new era of competition. Much of what the FCC does will either directly or indirectly affect the NS/EP telecommunications activities of other Government departments and agencies.

### FCC TELECOMMUNICATIONS ACT ACTIVITIES

Provided a new opportunity for entry into the video programming distribution market for open video systems.

Developed guidelines and methods for evaluating the environmental effects of radio frequency emissions.

Discussed and reviewed universal service issues.

Developed rules to implement local competition and interconnection provisions for telephone service.

Prohibited State and local regulations that restrict a viewer's use of receiving devices for television broadcast signals, and preempted local zoning regulation of satellite Earth stations.

Permitted residential and business customers to retain their telephone numbers when switching from one local service provider to another.

Ensured telephone access by persons with hearing disabilities.

Protected consumers from deceptive toll-free practices.

Held first meeting of the Telecommunications and Health Care Advisory Committee.

Proposed rulemaking on pay phone provisions of the Telecommunications Act.

Enabled manufacturers to self-authorize personal computer equipment.

Allowed utility companies to provide telecommunications services.

Allowed the operation of certain ship and aircraft stations without an individual license.



## NUCLEAR REGULATORY COMMISSION (NRC)

### NS/EP TELECOMMUNICATIONS MISSION

NRC is responsible for ensuring adequate protection of the public health and safety, the common defense and security, and the environment with respect to the use of nuclear materials for civilian purposes in the United States. Activities licensed and regulated by the Commission include commercial nuclear power reactors; nonpower research; test and training reactors; fuel cycle facilities; medical,

academic, and industrial uses of nuclear materials; and the transportation, storage, and disposal of nuclear materials and waste.

The Agency's NS/EP telecommunications provide for reliable connectivity between the NRC Operations Center, operating nuclear power plant control rooms, emergency operations facilities, fuel fabrication facilities, and regional incident response centers. This connectivity ensures immediate notification of unusual occurrences to the NRC Operations Center and provides relevant information during events at nuclear facilities.

### CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

FTS2000 has provided reliable service to all nuclear power plants, associated emergency operations facilities, and major NRC fuel facilities. Circuits for seven emergency operations functions are provided by multiple lines and provide current emergency access. The Emergency

Response Branch has initiated an assessment of current costs and services, and will be evaluating post-FTS2000 emergency telecommunications requirements.

NRC is participating with NCS in the beta test of the ERLink system that will allow the posting of emergency response-related information on an Internet-based server. The expansion of this effort to State and local officials is of particular interest to NRC. NRC would also like to initiate efforts to establish a business partnership with NCS and the NRC Technology Center to share and demonstrate emerging telecommunications applications such as ATM and wireless communications.

In response to E.O.'s 12472 and 12656, and NCS Notice 1-0-1, NRC will expand internal procedures to include NS/EP telecommunications requirements. The procedures will also include specific guidance on actions that can be taken to restore and/or augment emergency telecommunications services and resources during emergency situations.

## NRC SIGNIFICANT ACCOMPLISHMENTS

NRC was an active participant in the NCS Vision 21 Planning Process. The NRC Principal chaired Vision 21 Focus Team 3, NII; the Assistant Principal served as a member of Focus Team 1, NCS Process/Services/Image; and the NRC Representative participated on Focus Team 2, Interoperability/Emerging Technology. NII and emerging technology issues papers were prepared, and recommendations were endorsed by the COP.

NRC increased usage of GETS by ordering 80 additional GETS cards for senior managers at NRC regional offices and the resident inspectors located at nuclear power plant facilities throughout the Nation. This effort, initiated by the NRC GETS representative, provides useful backup telecommunications at NRC's most critical locations.

TSP was expanded to include TSP for the six T1 circuits in the NRC Operations Center. TSP also provides vital restoration priority to the Nation's nuclear power plants and fuel fabrication facilities. For emergency telecommunications backup, the NRC has deployed six Saturn portable satellite terminals. These terminals are positioned in the NRC Regional Offices and at Headquarters for use during response to natural disasters that could include loss of infrastructure (power, telecommunications) as well as response to nuclear transportation events.



## UNITED STATES POSTAL SERVICE (USPS)

### NS/EP TELECOMMUNICATIONS MISSION

USPS has not been assigned any specific NS/EP telecommunications responsibilities in the event of a national emergency or other declared disaster. Therefore, the USPS telecommunications systems and services are designed to support day-to-day organizational, administrative, and operational mission requirements; telecommunications

facilities dedicated specifically to NS/EP are limited in scope.

### USPS SIGNIFICANT ACCOMPLISHMENTS

Completely revised and updated the standards definition for the USPS Infrastructure Tool Kit and the Postal Computing Environment as the basis for the Information Technology architecture. These documents provide a standardized technical architecture that defines the evolving computing and telecommunications infrastructure required in the year 2000 and beyond. This architecture follows a utility company model to focus on the infrastructure required to deliver a standard service suite to all users located in field facilities.

Developed a plan and began competitive solicitation for the Managed Network Service (MNS) contract. The MNS contract is designed to acquire the current USPS network with its 1,000 currently connected locations and expand it to support more than 4,000 connected locations by the end of FY97 and more than 7,000 locations by the end of FY98. The MNS contract will provide service provisioning and performance standards, all network equipment, management tools and personnel, and commercial services required.

Developed a design and plan for the Associate Office Infrastructure (AOI) program to support the FY97 rollout of the national point of sale implementation. The AOI program consists of a structured wiring plant, following the USPS Universal Wiring standard to provide a 10BaseT Ethernet local area network; a standard High End Back Office Microsoft NT Server; and Wellfleet Router connection into the Postal Routed Network. This standard suite is slated for implementation at more than 14,000 USPS retail locations.

Developed the plan and design, and began the solicitation for national cellular wireless services to support the USPS Track and Trace Program. Implemented test pilots by using various wireless services, including Cellular Digital Packet Data, Circuit Switched Cellular Data, RAM Mobile Data Network, and 220Mhz Private Packet Radio; in Tampa, FL, and several other selected locations throughout the Nation. These tests were designed to gain operational knowledge of the various options available prior to solicitation for the needed wireless network services.

The USPS corporate E-Mail network grew from more than 450 to more than 600 cc:Mail Post Offices. This expensive network presently houses more than 125,000 directory entries (adding more than 200 new users per day and averaging more than 200,000 messages per 24-hour period). In addition, the deployment of numerous mail-enabled applications using this network have been added. These applications provide two-way information flow between major mailers and USPS operations to facilitate arrival scheduling and delivery performance of date-critical business advertisement mails.

Significantly upgraded the quality, quantity, and security of corporate network connectivity to the Internet. Completed the addition of Data General AVOIN platform that provides Multipurpose Internet Message Exchange support. Also deployed several Internet and Intranet Web-based applications for customer access.





## FEDERAL RESERVE BOARD (FRB)

### NS/EP TELECOMMUNICATIONS MISSION

The FRB does not have telecommunications assets listed as NCS primary assets because the significant telecommunications assets of the Federal Reserve are owned or leased by the Federal Reserve Banks, not by the FRB. The FRB's NS/EP

responsibilities relate to the "maintenance of the economic posture" and, in particular, the "maintenance of national monetary, credit, and financial systems."

### TELECOMMUNICATIONS STAFF ORGANIZATION

The Assistant Director for the Information Technology Program in the Board's Division of Reserve Bank Operations and Payment Systems has responsibility for oversight of the Federal Reserve Banks' telecommunications services and serves as a liaison member on the NCS COP. The Manager of the Information Technology Section of the Division of Reserve Bank Operations and Payment Systems serves as a liaison member on the NCS COR and as the alternate member on the NCS COP.

### CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

The FRB will continue to sponsor TSP assignments for essential telecommunications services supporting large-value payment systems, Federal Reserve open market and foreign operations, and the automated auction processing system for Treasury securities. The FRB will also support NCS initiatives designed to provide essential telecommunications services needed to maintain the Nation's financial telecommunications infrastructure and payment systems.

## FRB NS EP TELECOMMUNICATIONS ACCOMPLISHMENTS

The FRB has focused its NS/EP activities on its sponsorship role for assigning TSP status, primarily at restoration level four, to essential telecommunications services under criteria it adopted in 1993.

FRB has sponsored 811 active TSP assignments as of the end of this fiscal year, with approximately 100 assignments made during the year.

The FRB continued to sponsor TSP assignment for circuits used for Fedwire funds transfer and securities transfer services.

The FRB is sponsoring TSP assignment for circuits used by other payment systems, e.g., SWIFT, that meet FRB's eligibility criteria.

The FRB is sponsoring TSP assignment for access circuits to the Fedwire network from depository institutions that engage in large-dollar Fedwire transactions.

The FRB has initiated a GETS pilot program designed to establish its applicability to NS/EP requirements for payment system participants.



## NATIONAL SECURITY AGENCY (NSA)

### NS/EP TELECOMMUNICATIONS MISSION

NSA has an operational mission to support the critical intelligence needs of the DOD

and national security community, and to provide the technical support necessary to develop and maintain the security and protection of NS/EP telecommunications.

### TECHNOLOGY AND INFORMATION SYSTEMS SECURITY STAFF ORGANIZATIONS

Within NSA, support to NS/EP related activities is split between two organizations. The Technology and Systems Organization is responsible for the planning and operation of the telecommunications systems and networks linking Agency elements worldwide and providing Agency connectivity to other Government services.

The Information System Security Organization is responsible for developing information security (INFOSEC) products and services to enhance the security of telecommunications systems. Both organizations work in close collaboration with the military services and defense agencies in support of overall DOD initiatives. INFOSEC products and services are also applicable across the Government for the protection of classified and sensitive national security information. NSA's customer set also includes a broader range of users of the NII and involves a close working relationship with the National Institute of Standards and Technology.

## NSA CURRENT / ONGOING NS / EP TELECOMMUNICATIONS ACTIVITIES

Services provided by NSA include threat and vulnerability assessments to member organizations that lead to security guidance and advice, especially with respect to dependence on the NII.

Security guidance for ongoing NCS programs, including GETS and ERLink, is provided.

The Multilevel Information System Security Initiative (MISSI) has been created to make available a set of products that can be used to construct secure computer networks in support of a wide variety of missions. NSA's approach is to work closely with customers to completely understand their present and future needs. As a result, the technological underpinnings of MISSI are driven by information management approaches and existing constraints rather than by independent security solutions. MISSI products collectively provide:

- Writer-to-reader information security services, including data integrity and access control
- Support for applications, such as E-Mail and file transfer
- Protection against unauthorized disclosure or modification of information while enabling the integration of systems containing different sensitivity levels.



## NATIONAL TELECOMMUNI- CATIONS AND INFORMATION ADMINISTRATION (NTIA)

### CURRENT/ONGOING NS/EP TELECOMMUNICATIONS ACTIVITIES

- ▶ NTIA/OSM continues to plan and implement, using a phased approach, a

capability for total electronic transfer of Federal spectrum management data and information. It also continues to develop, field, and maintain several spectrum management automation tools to be used by Federal spectrum managers in more effectively planning, coordinating, and controlling use of the radio frequency (RF) electromagnetic spectrum during NS/EP and normal conditions. Examples of this include:

- ▶ With DOD's Joint Spectrum Center, developing the Joint Spectrum Management System for Windows Version 2.0.
- ▶ Populating the first electronic database of prioritized emergency requirements for RF electromagnetic spectrum use by Federal departments and agencies in support of a national emergency declared under Section 706 of the *Communications Act of 1934*, as amended.

- ▶ Staffing the first proposed Federal spectrum management data dictionary.
- ▶ Participating in National Emergency Management Team Communications Functional Group activities.
- ▶ Participating in the GETS User Council activities.
- ▶ Participating in the NSTAC CPAS Subgroup activities.
- ▶ Participating in NCS COP, COR, and Vision 21 activities.
- ▶ Participating in NCS SHARES HF Interoperability Working Group activities.

### NTIA SIGNIFICANT ACCOMPLISHMENTS

Drafted a COOP for NTIA in which Agency essential functions are delineated along with the resources required to accomplish them. The purpose of the COOP in general is to ensure that the appropriate and necessary people, equipment, and information are available to perform essential functions in a new operating location or environment when the normal place of business becomes unusable or when a failure of equipment, etc., means that emergency actions must be undertaken.

Authorized NS/EP use of the radio frequency electromagnetic spectrum by Federal departments and agencies in support of the 1996 Olympic Games.

# A.

## **NCS RELATED ACRONYMS**





## NCS-RELATED ACRONYMS

### A

A-ROC	Alternate Regional Operations Center
ACTS	Advanced Communications Technology Satellite
AERONet	Aeronautic Network
AIN	Advanced Intelligent Network
ALE	Automatic Link Establishment
AMSC	American Mobile Satellite Corporation
ANSI	American National Standards Institute
AOI	Associate Office Infrastructure
ASD	Assistant Secretary of Defense
AT	Annual Training
ATIS	Alliance for Telecommunications Industry Solutions
ATM	Asynchronous Transfer Mode
AUTODIN	Automatic Digital Network

### B

BNL	Brookhaven National Laboratory
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### C

C3I	Command, Control, Communications, and Intelligence
C4	Command, Control, Communications, and Computers
CEPTAG	Civil Emergency Planning Telecommunications Advisory Group
CIA	Central Intelligence Agency
CINC	Commander-in-Chief
CMC	Crisis Management Center
COE	Common Operating Environment
CONUS	Continental United States
COOP	Continuity of Operations
COP	Committee of Principals
COR	Council of Representatives
COTF	Commander, Olympic Task Force

CPAS	Cellular Priority Access Service
CPS	Cellular Priority Service
CRIS	Communications Resources Information Sharing

### D

DALO	Disaster Area Liaison Officer
DEA	Drug Enforcement Administration
DHHS	Department of Health and Human Services
DISA	Defense Information Systems Agency
DISN	Defense Information Systems Network
DMS	Defense Message System
DOC	Department of Commerce
DOD	Department of Defense
DOE	Department of Energy
DOI	Department of the Interior
DOJ	Department of Justice
DOS	Department of State
DOT	Department of Transportation
DSN	Deep Space Network

### E

E-Mail	Electronic Mail
E-Net	Enterprise Network
E.O.	Executive Order
EAS	Emergency Alert System
Ebnet	Earth Observing System Backbone Network
EIA	Electronics Industry Association
EOT	Emergency Operations Team
EPA	Early Post-Attack
ERFAK	Emergency Response Fly-Away Kit
ERLink	Emergency Response Link
ERON	Emergency Response Operations Network
ERT	Emergency Response Training

ESC	Enhanced Satellite Capability	IMT	International Mobile Telecommunications
ESF	Emergency Support Function	INEL	Idaho National Engineering Laboratory
<b>F</b>		INFOSEC	Information Security
FAA	Federal Aviation Administration	IOC	Initial Operational Capability
FBI	Federal Bureau of Investigation	IPTF	Infrastructure Protection Task Force
FCC	Federal Communications Commission	IRM	Information Resource Management
FEMA	Federal Emergency Management Agency	ISPG	Information Security Policy Group
FHWA	Federal Highway Administration	ISSB	Information Systems Security Board
FLEWUG	Federal Law Enforcement Wireless Users Group	ITA	International Trade Administration
FRB	Federal Reserve Board	ITAC	International Telecommunications Advisory Committee
FRERP	Federal Radiological Emergency Response Plan	ITU	International Telecommunications Union
FRP	Federal Response Plan	ITU-R	International Telecommunications Union — Radiocommunication Sector
FSI	Federal Security Infrastructure	ITU-T	International Telecommunications Union — Telecommunication Sector
FSN	FEMA Switched Network		
FTS2000	Federal Telecommunications System 2000	<b>J</b>	
FTSC	Federal Telecommunication Standards Committee	J-6	Command, Control, Communications, and Computers Directorate
FTSP	Federal Telecommunication Standards Program	JPL	Jet Propulsion Laboratory
FWUF	Federal Wireless Users Forum	JS	Joint Staff
FY	Fiscal Year	<b>L</b>	
<b>G</b>		LAN	Local Area Network
GETS	Government Emergency Telecommunications Service	LEC	Local Exchange Carrier
GITS	Government Information Technology Service	LEO	Low Earth Orbit
GSA	General Services Administration	LINCS	Leased Interfacility NAS Communications System
<b>H</b>		LMR	Land Mobile Radio
HF	High Frequency	LTA	Late Trans-Attack
HPC	High Probability Completion	<b>M</b>	
<b>I</b>		MCEB	Military Communications — Electronics Board
IA	Information Assurance	MFJ	Modified Final Judgment
IATF	Information Assurance Task Force	MISSI	Multilevel Information System Security Initiative
IC	Integration Contractor	MNS	Managed Network Service
IDCU	Integrated Data Communications Utility	MOA	Memorandum of Agreement
IM	Information Management	MSS	Mobile Satellite System
IMA	Individual Mobilization Augmentee		
IMC	Interagency Management Council		

# **N**

NASA	National Aeronautics and Space Administration
Nascom	NASA Operational Communications System
NBC	Nuclear, Chemical, and Biological
NCAP	National Communications Awareness Program
NCC	National Coordinating Center for Telecommunications
NCS	National Communications System
NDAC	Network Design and Analysis Center
NDER	National Defense Executive Reserve
NESDIS	National Environmental Satellite Data and Information Service
NII	National Information Infrastructure
NIITF	National Information Infrastructure Task Force
NIST	National Institute of Standards and Technology
NLETS	National Law Enforcement Telecommunications System
NLP	National Level NS/EP Telecommunications Program
NOAA	National Oceanic and Atmospheric Administration
NRC	Nuclear Regulatory Commission
NS/EP	National Security and Emergency Preparedness
NSA	National Security Agency
NSI	NASA Science Internet
NSIE	Network Security Information Exchange
NSG	Network Security Group
NSTAC	National Security Telecommunications Advisory Committee
NTCN	National Telecommunications Coordinating Network
NTDB	National Trade Database
NTIA	National Telecommunications and Information Administration
NTMS	National Telecommunications Management Structure
NTS	Nevada Test Site
NWS	National Weather Service

# **O**

OC	Operating Center
OMB	Office of Management and Budget
OMNCS	Office of the Manager, National Communications System
OSF	Office of Space Flight
OSD	Office of the Secretary of Defense
OTM	Office of Telecommunications Management

# **P**

PACA	Priority Access Channel Assignment
PCS	Personal Communications Services
PDD	Presidential Decision Directive
PIN	Personal Identification Number
PSCN	Program Support Communications Network
PSN	Public Switched Network
PSTN	Public Switched Telephone Network

# **R**

R&D	Research and Development
RECP	Regional Emergency Communications Planner
RF	Radio Frequency
RSPA	Research and Special Programs Administration

# **S**

SARSAT	Search and Rescue Satellite
SHARES	Shared Resources
SPR	Strategic Petroleum Reserve
STU	Secure Telephone Unit

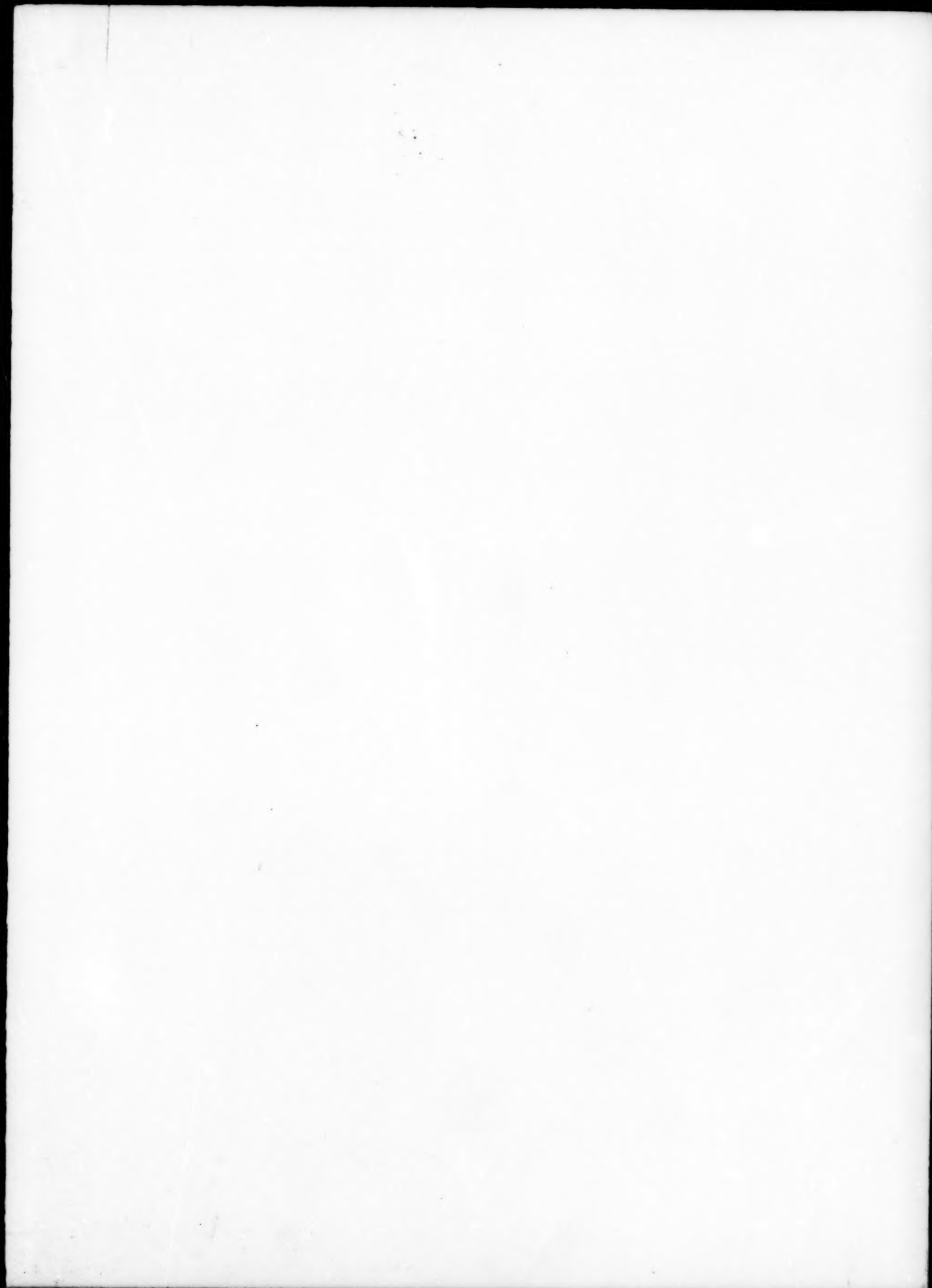
# **T**

TCS	Treasury Telecommunications System
TDRSS	Tracking and Data Relay Satellite System
TIA	Telecommunications Industry Association
TPP	Telecommunications Planning Process
TREAS	Department of the Treasury
TSP	Telecommunications Service Priority

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<b>TSS</b>	Telecommunications Service Staff
<b>U</b>	
<b>URL</b>	Uniform Resource Locator
<b>USDA</b>	United States Department of Agriculture
<b>USIA</b>	United States Information Agency
<b>USPS</b>	United States Postal Service
<b>V</b>	
<b>VA</b>	Department of Veteran Affairs
<b>VANTS</b>	VA Nationwide Teleconferencing System
<b>VOA</b>	Voice of America
<b>VSAT</b>	Very Small Aperture
<b>VTC</b>	Video Teleconferencing
<b>W</b>	
<b>WAN</b>	Wide Area Network





END

04-28-98